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THE RELEVANCE OF ONLINE PIRACY IN THE NEW DECADE

An empirical study of video content piracy

Muzaddid Ahmed

International Business
Bachelor's Thesis
Supervisor: Miikka J. Lehtonen
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ABSTRACT OF
BACHELOR'S
THESIS

Author: Muzaddid Ahmed
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Objectives
The main objective of the study was to research key factors and motivations for consumers when choosing to engage in the online piracy of video content. These motivations would then be utilised by businesses and content providers to improve their current distribution and business models, services and distribution channels in order to reduce piracy rates of their video content. To date, few studies have attempted to extend current business models to rising piracy rates.

Summary
Global video content piracy rates continue to rise despite industry and government efforts to stagnate it. Academic research in the form of a quantitative survey study was deployed to explore what factors contribute to consumer piracy behavior. Data was gathered through a survey, which received 303 responses from 45 different countries, spanning six continents. The data from the survey indicated core service issues as main contributing factors to online piracy of video content. Differences in piracy rates between demographics such as gender and location were also found.

Conclusions
Consumers and pirates alike would gladly pay for content but feel as in content is too dispersed across different streaming services, regionally locked or receive delayed releases in one's own region, making piracy the best or in some cases only option to consume content instantly. Consumers also neutralized the crime with by denying financial impact from piracy and were more likely to pirate if they had the necessary capabilities or less moral obligation against it. Content providers need to prioritize synchronized global distribution and educational campaigns about the harms caused by online piracy.

Key words: *online piracy, movies, consumer behavior, business model, streaming service, television, intentions, criminological theory, digital distribution*

Language: English

Grade:

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ABSTRACT

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1. Introduction and background

Digital technology has brought forth unmatched human development as well as unparalleled societal impact. New information systems and advanced forms of communication have rendered significant improvement in the quality of life for many and created new channels of development. However, these technological developments have also been the basis for a new kind of criminal behavior: online piracy (Morris & Higgins, 2008, 2010). Online piracy is defined as the illegal act of copying digital goods and digital media for any reason other than backup without explicit permission from and compensation to the copyright holder (Gopal et al., 2004; Higgins, Fell, & Wilson, 2006), however since the inception of this definition, new methods of online piracy have emerged such as the illegal streaming of video content. As society becomes more dependent on technology and people spend more time participating in the digital environment (Morris & Higgins, 2010), it is paramount to understand the fast-evolving relationship between consumers and content in the context of online piracy (Wang, 2016). Initially a mutual understand was reached between content providers and consumers, as piracy rates decreased greatly over the past couple of years due to the explosion in popularity of subscription-based streaming services, such as Netflix, and their inexpensive price point (Nhan et al., 2020), however a report by the leading provider of network intelligence solution, Sandvine (2019) has stated that after several years, online piracy rates are on the upturn.

The current study will be placing a specific focus on the online piracy of video content such as movies and television shows. Online piracy has been a persistent threat to IP owners and content providers, such as major film studios, for decades (and more recently subscription-based streaming services), with global video content piracy rates continuing to rise despite industry and government efforts to quell it. The financial harm caused by online piracy is difficult to estimate, with forecasts varying from each other by billions of dollars. The U.S Chamber of Commerce forecasts that the U.S economy loses at minimum $29.2 billion dollars annually due to piracy of paid digital tv and movie content (The Impacts of Digital Video Piracy On The U.S Economy, 2019), while an older report by Digital TV Research (2017) estimates that by 2022 there will be $51.6 billion dollars lost in revenue from the piracy of movies and television episodes across 138 countries. Although the forecasts differ dramatically, the economic losses stated

by both reports are significant and give enough reason for online piracy to be considered a notable global issue (Morris & Higgins, 2010).

The general consensus is that online piracy stems from pirated content being free, but it is often marketplace conditions that push consumers to condone or even engage in piracy-related behavior in the first place (Miyazaki, Rodriguez and Langenderfer, 2009). As mentioned, piracy rates had decreased greatly over the past couple of years due to subscription-based streaming services (Nhan etl., 2020), however online piracy of film and television content is rising again, with recent trends suggesting that online piracy may largely stem from issues with the current business models of content providers and services (Sandvine, 2019). Therefore, the purpose of this paper is to map out important factors in the marketplace which are causing consumers to revert back to illegal consumption of video content, in order to construct a better understanding of consumer behavior regarding piracy of video content. The study will utilize empirical research in the form of a quantitative survey to gather data, in the hope that the findings and data presented will assist businesses and content providers to design their business model, service or distribution channel in a way that minimizes piracy rates of their content in the future. The research problem for the current study will be introduced next.

1.1. Research problem

After a gradual decline, online piracy rates of video content are on the rise again (Sandvine, 2019), and due to marketplace conditions, online piracy is very often the more convenient way to consume content as opposed to legal channels (Miyazaki et al., 2009; Macneill, 2016), meaning consumers who would normally be willing to pay for content, may resort to illegal consumption of content. There are prevalent service problems currently with content being dispersed across different streaming services and causing a fragmentation in the market (Sandvine, 2019), consumers being geographically region locked from desired content and content having delayed releases in different parts of the world (Leaver, 2008; Macneill, 2016). Businesses and content providers need to be aware of how serious these current service issues are and how much they can influence consumers to turn towards piracy.

Literature suggests that the rapid technological developments and the ease of internet use has enabled even the average consumer to engage in online piracy (Wall, 2005), and rationalize it without feeling guilty (Sykes & Matza, 1957; Macneill, 2016). Rationalizations, such as not causing the content provider any harm by pirating, are hugely detrimental for businesses trying to retain consumers as customers. Differences in piracy rates between countries, genders and occupations are also discussed in the current study and should be taken into account so services and products can be designed with these demographics in mind.

Online piracy needs to be understood in the context of a fast-evolving relationship between audience and content (Wang, 2016). Since the digital landscape for content consumption and distribution is constantly shifting, many of the discussed literature do present issues that are still prevalent in today's online piracy environment, but few studies have attempted to extend current service problems and business models to rising piracy rates. The current study to will attempt address this gap in literature to better understand consumer online piracy intentions of video content. The research questions and objectives will now be mapped out to give the reader an idea of the direction the study will be taking.

1.2 Research Questions & Objectives

The research questions are derived from existing literature in this field, with findings to these questions believed to compliment and further extant research. Several of the studies cited service issues as a huge factor when consumers choose to pirate (Leaver, 2008; Cenite et al., 2009; Macneill, 2016), indicating an underlying service problem that may have more facets to it due to the current business model of subscription based streaming services. The literature also explores differences in demographics, which may further provide insight into what aspects of legal content distribution need to be fixed for these consumers to pay for content. Thus, the main two research questions and its sub-questions for the current study are:

Main research question 1: What are the main factors and motivations for consumers when choosing to engage in online piracy of video content?

Sub-question 1: Is online piracy of video content largely due to current service problems?

Sub-question 2: Can consumer demographics predict likeliness to pirate?

Sub-question 3: Do popular criminology theories apply to current consumers and pirates?

Main research question 2: How can these findings be utilised by businesses and content providers to reduce piracy rates?

Ultimately this study extends the body of knowledge that explores the changing motivations of pirates in the constantly changing digital landscape. It is hoped that the findings presented in this paper will aid intellectual property holders and businesses in maximising their investment by not letting piracy cannibalise their revenue and allowing them to design services and products that will lead to content being consumed through legal channels instead of being pirated. To conclude the introduction, an overview of the current study is provided.

1.3. Overview of the study

The paper will first introduce and discuss relevant academic literature on the topic of online piracy, which will serve as the foundation for the current research. The literature review is followed by a research methodology section that will elaborate on why the chosen data gathering method used was the optimal one, as well as discuss the data collected and how to interpret the statistical tests conducted by IBM SPSS 26. Analysis and Findings present the statistical tests used and what findings were made with regards to the research question and its sub questions as well as the hypotheses formed from these. These findings are then further discussed in conjunction with one another in the discussion section and the paper ends with a conclusion which explains main findings, managerial implications, limitations and suggestions for further research.

2. Literature Review

The purpose of this paper will be to research and map out reasons on why consumers are reverting back to illegal acquisition of video content (Sandvine 2019), and what can be done to keep video content piracy rates low. The literature review serves as the foundation for the research, by exploring previous literature regarding pirates, online piracy, consumer motivations to pirate and entities that are affected by illegal content consumption, in order to present a narrative about online piracy during the last twenty to thirty years and where it is headed now at the current rate. Hypotheses for the current study will be formed and presented as we progress through existing literature and later on tested in the quantitative study. This literature review is structured in to four parts, with the first part serving as an overview by providing a definition and background information about online piracy. The abundance of issues surrounding online piracy will then be examined in the context of international business and streaming services, followed by the demographics of pirates and what consumer piracy motivations previous studies have uncovered. Finally psychological frameworks in regards to piracy will be discussed and a theoretical framework, based on a synthesis of the discussed literature, will be introduced to indicate and conceptualise the direction of the current study.

2.1. Background and Definition

Digital piracy has been a byproduct of the digitalized world since the early days of personal computers (Gopal et al., 2004). During the 1970s and 1980s, all software on computer was open source, so essentially free. The purpose of the internet at the time, was to share software around the globe for free for mutual benefit. Software piracy was only born when Microsoft and other notable software companies started charging for their technology, which led to early adopters and coders of the internet feeling cheated, and in turn start pirating the software. They did not consider the illegality of their actions since it was these companies who were breaking their code of ethics. Later on, during the mid and late 90s with the emergence of the World Wide Web, the piracy scene exploded (Newman, 1999).

Software piracy has spread to the extent in which 37% of all software installed on personal computers are pirated (Global Software Survey, 2018). Software piracy however is an umbrella term and is too broad of a topic to cover in this paper. Webopedia divides software piracy into five categories, softlifting, client-server overuse, hard disk loading, counterfeiting and online piracy. This paper will explore online piracy, which is also known as digital piracy (Gopal et al., 2004) and has been a criminal act since 1976 (Higgins 2006).

According to Online Etymology Dictionary the word *pirate* has been used in the context of "one who takes another's work without permission" as long ago as 1701, a year in which piracy on the high seas would have been a common topic of discussion, and the term piracy has been associated with copyright infringement for hundreds of years (Johns, 2009). The term “piracy” has no internationally agreed upon definition, but all legal and economic uses of the term are based on intellectual property (IP) law and protection (Yar M. 2005). Online piracy is defined as the illegal act of copying digital goods, software, digital documents, digital audio (including music and voice) and digital video, for any reason other than backup without explicit permission from and compensation to the copyright holder (Gopal et al., 2004; Higgins, Fell, & Wilson, 2006). While the authors have given a concise definition of online piracy, these definitions are about fifteen years old and do not account for the new methods of online piracy that has been invented since, for example illegally streaming content. The terms online piracy, digital piracy and the act of pirating content will be interchangeable in the current study, and pirating content such as films will be defined as the illegal acquisition, streaming and sharing of content. Now that the background for online piracy has been provided, its current role in international business will be explored.

2.2. Online Piracy in International Business

Online piracy represents a significant threat to intellectual property owners and service industries producing video content (Gopal et al., 2004), but has also been a platform for the emergence of new business models. The following two segments will present data and discuss case studies from previous literature to showcase the impact of online piracy in international business.

The extent of the financial impact created by online piracy, although significant, is difficult to accurately measure. Digital TV Research (2017) evaluate that by 2022 there will be $51.6 billion dollars lost in revenue from the piracy of movies and television episodes across 138 countries, nearly doubling from 2016. The numbers put forward by a joint study conducted by the U.S Chamber of Commerce, Global Innovation Policy Center and NERA Economics Consulting called “The Impacts of Digital Video Piracy On The U.S Economy” (2019) however estimate that the U.S economy loses at minimum $29.2 billion dollars annually, due to piracy off paid digital tv and movie content. The study also elaborates what a vital component of the U.S economy the film and television production and distribution industry is, bringing in $229 billion dollars of revenue in 2017 and directly supporting 927000 jobs and 2.6 million in total. Online piracy jeopardises these jobs as secondary harm stemming from piracy may include lost jobs, lost tax revenue and inflated prices (Morris & Higgins, 2010). According to a report by Sandvine (2019), a leading provider of network intelligence solutions, The U.S is also the source for an enormous quantity of highly sought out video content around the world, and estimates that there are 26.6 billion viewings of U.S-produced movies and 126.7 billion viewings of U.S-produced television episodes that are digitally pirated annually, with the majority of these illegal viewings and downloads coming from outside the United States, but the ramifications only felt by the U.S economy. Sandvine (2019) utilized the national macroeconomic model (IMPLAN), a very well-established model, to estimate the overall impacts on the U.S. economy from digital video piracy for their report. Although the data collection was extensive, all numbers provided by these reports are rough estimates and the reports even state that most of the numbers are the absolute minimum, meaning that revenue loss is realistically even higher, as shown when comparing one estimation of $51.6 billion dollars lost in revenue by 2022 across 138 countries, and another estimation of $29.2 billion dollars lost annually by the U.S alone. Even though the forecasts differ greatly, the economic impact of online piracy can not be understated.

While online piracy is generally seen as a negative phenomenon, pirates also exploit existing technology and create something more remarkable to serve the demands of consumers. The silver lining of piracy is explored by Choi and Perez (2007) who argue that online piracy is directly responsible for the creation of new technology in the form of the significant impact that piracy has had on file-sharing technology, which has led

to breakthroughs in the distribution of information (legally and illegally). Furthermore the priceless source of market insight that pirates have been since they tend to be early adopters, the contribution to the creation of new markets such as Napster, the first on-demand streaming music subscription service, and the inception of legal and innovative business models which pirates have encouraged with the market insight and technology they have provided. As an example, we can examine Japanese anime, which was widely popularized on a global scale through piracy. It can be viewed as a cultural product created for a narrow segment of the Japanese market to consume and not intended for the global market (González, 2007). However Japanese anime has grown into a widespread cultural phenomenon through the efforts of pirates who distributed the content with English subtitles through various illegal channels, helping it achieve the global reach that it has now (Wang, 2016).

Undoubtedly there is significant value that online piracy can bring for daring entrepreneurs, such as the use cases Choi and Perez (2007) have presented or the popularization of a product created for a niche market as seen with anime (Wang, 2016). However potential gain does not come close to exceeding or even matching the very realistic loss in revenue that content providers have to deal with annually.

2.2.1 Piracy and its role in streaming services

According to the digital-piracy analytics company MUSO (2019), there were approximately 190 billion visits globally to piracy sites in 2018, with television related piracy being the reason for 49.38% of these visits, and films being 17.9%. The report continued by stating that sixty percent of all piracy visits were to illegal web streaming sites and thirteen percent to torrent sites. Streaming services and their inexpensive price point, such as Netflix, have greatly reduced piracy rates over the last couple of years (Nhan, Bowen, Bartula, 2020), however the Sandvine (2019) report note that analyzing internet traffic from 2018, torrenting is on the rise again and this can be accounted to the fragmentation of streaming services, with major networks pulling content from other services and launching their own exclusive services. The report states that the fragmentation in the market is a major factor in the recent rise of online piracy since consumers cannot afford or want to subscribe to all the different services that have the

content they desire, turning instead to piracy. The dispersion of content across different services is a fairly new phenomenon and one that has little academic research behind it, this allows for the formation of the first hypothesis:

Hypothesis 1: Content is too dispersed across streaming services

An example of market creation that Choi and Perez (2007) mentioned would be the subscription-based streaming service Crunchyroll. Crunchyroll is the leading Japanese anime streaming service and a textbook case of a business model that successfully monetises online content. It started out as a pirate site, illegally streaming copyrighted anime content online, and was bought by a major Japanese television company and now currently legally streams to 8 million subscribers globally (Wang, 2016). Wang (2016) followed up by stating that Crunchyroll was not the only pirate site that was turned into a legitimate distributor, as Warner Bros used a former pirate video distributor, Xianke, as their first home video licensee in China during the 1990s. These cases prove how intellectual property owners and copyright owners can minimize revenue loss and take advantage of the networks created by pirates.

Pirates are unquestionably detrimental to the revenue and operations of content providers and intellectual property owners, but they are still are a huge untapped market and audience. Not only could they bring in enormous amount of money through subscription fees, but as mentioned by Choi and Perez (2007), invaluable market insight to streaming services. The CEO of MUSO, Andy Chatterley (2019) shares the same view when commenting “Digital piracy is still prevalent globally. Television is the most popular content for piracy and given the fragmentation of content across multiple streaming services perhaps this isn’t surprising. Whilst it’s important to restrict the distribution of unlicensed content, there is a wealth of insight to be garnered from piracy audience data that gives a comprehensive view of global content consumption.”. Content providers such as Netflix and HBO would be wise to take heed or risk alienating the swaths of content consumers, that are pirates. The next section will introduce who these pirates usually tend to be.

2.3. Who engages in online piracy?

Having discussed the phenomenon of piracy and its socio-economic impact in-depth, as well as clarified the scope of piracy that will be covered in the current study, the rest of the literature will be examining pirates as a collective, covering demographics, intentions and behavioural frameworks. According to several of the following studies, some demographics tend to be more prone to piracy than others with variables such as gender, age and location being important factors.

Gopal and Sanders (1998) suggested that males were more likely to pirate than females, and a number of studies seem prove this assertion true. Tomczyk, Ł. (2019) conducted a study with 4121 Polish adolescents, measuring correlations between piracy and other risky behavior offline and online, and found that approximately 12% of the respondents pirate files regularly so once a week, male adolescents were more likely to pirate and parental control as well as religious households reduced the frequency of piracy. The mean age of the study was 15.81, with 55% of the respondents being female. In a study by Tjiptono et al. (2015) of 223 university students in Indonesia, the researchers also found that males have a more positive attitude towards digital piracy than females. Gottfredson and Hirschi (1990) argue that individuals with less self-control are more likely to engage in delinquent behaviour and due to differences in child rearing between genders, females grow up to have more self-control than males, leading males to engage in more crime. While this could be an explanation for why the aforementioned studies found males to be more susceptible to piracy, Moon et al. (2012) study of 2712 Korean youths found no correlation between self-control levels of genders and computer crime. Due to the conflicting nature of these studies regarding gender, online piracy and self-control, statistical tests will be carried out to further research this.

Karaganis and Renkema (2013) compared the U.S and Germany to each other in terms of piracy, due to the countries' similarities in socio-economic profiles. They interviewed 1000 Germans and 2303 Americans over the age of 18, through a random phone survey. They found that nearly half of the respondents from both countries have shared or downloaded entertainment media for free, and 70% of adults from both countries under the age of 30 had engaged in illegal sharing or downloading,

highlighting that piracy is rampant among youth. Karaganis and Renkema (2013) also found pirates to be heavy content consumers which corroborates with Wang's (2014) research in which he states that countries with the highest piracy rates, in emerging economies such as Brazil, Russia, India and China, also have the highest growth film markets.

A study conducted by Yu (2013) in American universities found that international Asian students were more likely to justify digital piracy and overall favoured digital piracy more than the American students. The general morality however was similar for both groups, suggesting that Asian students were more likely to justify piracy but their moral views were not fundamentally different compared to Americans. In similar vein, Piquero and Piquero (2006) examined piracy data from 82 countries to determine if the democratisation of countries correlates with software piracy levels. The study showed that less democratic countries had higher rates of software piracy than more democratic countries. Unfortunately this study gives too broad of a context and fails to examine subgroups of individuals and researches software piracy which is not the topic of this thesis. Due to the multitude of studies and differing results exploring the role of gender and location and its influence in piracy, the following hypothesis will be researched:

Hypothesis 2: Demographics influence likeliness to pirate

With this hypothesis, the current study will aim to find out if differences in location and gender contribute to intentions to pirate. With this data, content providers would be able design optimal solutions for these specific demographics. However, before focusing on the location and gender of consumers and pirates, their core motivations to engage in piracy need to be addressed, so existing literature covering this topic will be discussed next.

2.4. Piracy Motivations of Consumers

When speaking about the motivation of digital pirates, little distinction is made between individuals who pirate content for their own use and large-scale piracy of software,

films, music, and television in the form of counterfeit CDs, DVDs and websites that facilitate torrenting (Macneill, 2016). Since the current study focuses on online piracy committed by consumers with only content consumption in mind and no financial gain, this is the group whose motivations will be explored in this chapter and thesis as a whole.

Miyazaki et al. (2009) stated that very often the current marketplace conditions push consumers to condone or even engage in online piracy, suggesting that online piracy stems from a service issue. The following segment will examine and discuss issues with services and distribution of content which the current study believes is central to consumer intentions pirate.

2.4.1. Service issues

Paraphrasing Gabe Newell (2011), the CEO of Valve, he believes that there is a fundamental misconception about piracy, it is almost always a service problem and not a pricing problem, and if content is region locked or available only three months after the US release, the pirate's service which offers content globally and simultaneously, is more valuable. He also added that he believes piracy will never plague their company, due to their video game digital distribution service Steam operating transnationally across borders and bringing content to gamers across the globe simultaneously without delay or region-lock. Wang (2016) reiterates Newell's notions by declaring that consuming copyrighted material online is no longer an anomaly but the norm due to users' desire for immediate access to new content. Newell and Wang clearly see piracy as a service issue and strongly hint at it being fixed if content was available all around the globe simultaneously, just like Newell's service Steam has managed to do. Newell and Wang do raise a strong argument when looking at some of the recent piracy "milestones".

The final season premiere for HBO´s Game of Thrones was highly anticipated around the globe which was evident by the viewership: 17.4 million views in the first 24 hours. However due to the unavailability globally, the premiere was pirated 54 million times in only the first 24 hours with India alone pirating it 9.5 million times (Muso, 2019). One

of the earliest major content piracy milestones was the release of Star Wars Episode I - The Phantom Menace in 1999, the movie was highly anticipated around the globe but some regions had to wait up to six months for the theatrical release, leading to widespread purchasing of bootleg CDs (Bowen, 2005). Although the spreading of bootleg CD's is rare in present times, the need for simultaneous global releases is as apparent as ever, with consumers willing to resort to intellectual property theft in order to get content instantly. The issue of piracy being a service problem is further explored in two case studies conducted in Australia by Leaver T. (2008) and Macneill K. (2016).

Leaver (2008) notes how delays between oversea and Australian airdates can be anywhere from six months to two years. His case study focuses on Australian fans who had to wait over six months for the latest episodes of *Battlestar Galactica.* The producers of the show had built a global fanbase, engaging with fans through various different mediums. The show also had considerable coverage in media due to the critical acclaim it received, resulting in Australian fans being susceptible to the latest spoilers reported in the press. This led to fans feeling alienated from the rest of the global fanbase and pirating the latest episodes to engage with rest of the fans in real-time. Leaver's case study indicates that because the fans felt alienated and wanted to keep up with the global fan community, they resorted to the illegal acquisition of Battlestar Galactica. While Leaver's case study was conducted 12 years ago and the landscape of digital piracy has transformed since then, piracy behaviors stemming from regional licensing has persisted. A pair of hypotheses can be derived based on these two case studies:

Hypothesis 3: Consumers would rather get content instantly than wait for it

Hypothesis 4: Consumers are more likely to pirate content if it is region locked

Macneill K. (2016), much like Leaver (2008), noted in her study regarding Game of Thrones, that for many of the fans the viewing of the series is only one part of a larger field of consumption and exchange. She carries on by stating that the past practice of delayed screenings of TV shows in Australia, which were months if not years behind the United States or United Kingdom, have produced a culture of piracy which is now the new norm. Her study as well as Leaver's (2008) case study, indicate that the

viewing of an episode is just a fraction of a larger experience, which ultimately is what brings the most value to the consumption of the content for fans. Fans in Leaver's study also stated that avoiding plot reveals from the media as a factor in pirating, which in turn allows the reasonable assumption that the Game of Thrones premiere was pirated 54 million times in its first 24 hours of release due to having a huge social media presence, leaving fans susceptible to spoilers because of the delayed global release. Macneill however examined and used data gathered from 252 Facebook comments by Australians, that were posted in relation to piracy and Game of Thrones. To produce more academically sound results that can be subjected to rigorous statistical examination, data will be gathered through a quantitative survey.

2.4.2. Do pirates legally consume content?

A notable question in piracy literature has been "Does piracy affect legal consumption?" (Ma, Montgomery, Singh, Smith, 2014). One major argument by Ma et al. (2014) for online piracy and piracy in general, is that if pirates were genuinely interested in the content, they would simply buy the legitimate version and support the content provider, which will enable them to keep making and releasing more similar content in the future. However as discussed in previous chapters, due to factors such content not being available in a specific region, the pirate may not have the chance to purchase the content. The researchers also inferred if these pirates would have bought the content if it was not available to pirate, seeing as how these pirates will go through the time and effort to pirate the content, which essentially makes them enthusiastic consumers. Several of the studies discussed viewed pirates as eager content consumers (Leaver, 2008; Karaganis & Renkema, 2013; Macneill, 2016), so the current study will research this by forming a hypothesis:

Hypothesis 5: Pirates are enthusiastic content consumers; Pirating content and legally acquiring content is not mutually exclusive

Cenite et al. (2009) conducted a study in which they interviewed forty file-sharers from Singapore. Their findings included a variety of reasons as to why these file-sharers engage in online piracy such as not having access to content, so being region locked

as mentioned earlier in the paper. This included films that were banned in Singapore, heavily censored or just not available. The time gap was also mentioned, with respondents wanting to enjoy the widespread media and fan "hype" of content real time, similar to the Australian fans in the two earlier case studies. Majority of the respondents said that they use file-sharing to sample the content before deciding to buy it. This allows for the creation of the following hypothesis:

Hypothesis 6: Pirates sample content before deciding to buy it

Nearly all respondents cited convenience of quickly accessing content as a reason. However, 33 out of the 40 respondents stated that file-sharers should purchase the content if they liked it, citing supporting and acknowledging the content producer as the reason. The study gives credible reasons for piracy motivations however the sample size is only 40 and consists of individuals from Singapore, which is not representative of pirates nor consumers globally. Furthermore, the interviews themselves are all anecdotal evidence and self-reporting can often lead to social desirability bias. However, the motivations of the file-sharers from Singapore echo in similarity to the motivations uncovered in previous studies.

These studies from different parts of the globe seem to prove the claim by Ma et al. (2014), that being an enthusiastic legal consumer and a pirate are not mutually exclusive. This was shown to an extent in Macneill's (2016) study in which Australian respondents, who pirated Game of Thrones, veered away from the notion of causing harm by stating that they had later on purchased the Blu-Ray or DVD once it became available, or on Cenite et al. (2009) study in which the 33 out of 40 respondents from Singapore agreed that content should be purchased if enjoyed as a sign of acknowledgement. In Karaganis and Renkema (2013) study of 1000 Germans and 2303 Americans it was also highlighted that piracy is complementary to legal acquisition, not a substitution, and that pirates were heavy legal media consumers. Even the Battlestar Galactica fans in Leaver's study (2008) were just enthusiastic fans eager to consume content by any means necessary, which in their case meant pirating due to the content being region locked. The current study will further research to what degree these in-

tentions affect consumers decisions to pirate. While these motivations serve as superficial variables to explain piracy behavior, decades old criminology theories have also been used to explain behavioral models of consumers who engage in online piracy.

2.5. Criminology of Piracy

This section will explore established theories of crime that researched have used to better understand the traits and patterns that contribute to online piracy behaviour. The theories discussed will also be used to form hypotheses for current research.

A popular theory that has been often used to understand digital piracy, and criminality as a whole, is Gottfredson and Hirschi's (1990) general theory of self-control, one of the most dominant criminological theories, which is backed by numerous empirical findings (Moon et al., 2012). According to Gottfredson and Hirschi, children who are subjected to abusive behavior, neglect and bad parenting, grow up to have low self-control, and the level of self-control established during the ages of 8 to 10 remains relatively stable throughout one's life. Consequently, those with low self-control are more likely to engage in criminal activity when they see an opportunity for it. The pair define having low self-control as being unable to see the long-term consequences of one's behavior. Using this model, plenty of studies have proven that low self-control is useful in predicting digital piracy related behavior (Higgins, 2005; Higgins, Wilson, & Fell, 2005; Higgins et al., 2006). Earlier in the paper a study by Tomczyk, Ł. (2019) of 4121 Polish adolescents found that adolescents with better parental control or a religious household were less likely to pirate. This study coupled with Gottfredson's and Hirchi's general theory of self-control suggests that low parental control can lead to low self-control, which ultimately can lead to online piracy behavior. Further research will be conducted in this thesis to support or contend the assertion that there is a correlation between self-control levels and engaging in online piracy with the hypothesis:

Hypothesis 7: Low levels of self-control predict likeliness to pirate in the future

Cronan and Al-Rafee (2007) developed a model to better understand why digital piracy behavior occurs and what influences an individual's intent to pirate. They found high

Perceived Behavioral Control (PBC) and low moral obligation were significant predictors in an individual's intentions to pirate in the future. Perceived Behavioral Control is defined as the perceived ease or difficulty in performing the criminal behavior, so in other words an individual's ability to engage in piracy. This is reiterated by Higgins et al. (2008) who state that individuals who learn to perform digital piracy are more likely to do it. Moral obligation refers to the feeling of guilt or to an individual's personal obligation to perform or not to perform a behavior. Their sample however was too homogenous, with the target population being students from a single university in the United States, and the study being 13 years old fails to account for technological advancements in online piracy as well as content distribution ever since. The current study will aim to replicate Cronan and Al-Rafee´s (2007) results but with a more diverse sample, so generalizations can be made, and the modern digital landscape of content distribution and online piracy in mind, thus allowing for the formation of the two hypotheses:

Hypothesis 8 : Consumers with the ability to pirate are more likely to pirate in the future

Hypothesis 9: Consumers with low moral obligation against piracy are more likely to pirate in the future

The act of pirating online is more frequent and not nearly as stigmatized as for example, shoplifting. Both are forms of theft which will result in punitive action, but you are much more likely to know a person who has illegally downloaded or streamed a film from the internet, than stolen a stack of DVDs from the local supermarket. Wall (2005) inferred that the internet has four key characteristics that have enabled users to engage in criminal activity without feeling the severity of their actions. It gives the chance to communicate anonymously, it is transnational, it has created a shift in thinking from the ownership of physical property to the ownership of ideas and it is easy to use. Wang (2016) echoed these sentiments, stating that an increase in downloading culture can be attributed to technological developments. Wall (2005) also argues that the internet facilitates the crime of intellectual property theft without being in direct association with the copyright holder, so in other words you're stealing without actually coming in contact with the entity you're stealing from. This creates the perception that the act of piracy is victimless, thus allowing the offender to have a guilty free conscience.

The offender having a guilty free conscience can also be explained with Sykes and Matza's (1957:664) neutralization theory. According to the theory, people apply different techniques of neutralization to provide justification for the criminal act they are about to commit. These techniques are: denial of victim ("nobody got hurt"), denial of injury ("no harm results from my actions"), denial of responsibility ("it is not my fault"), condemnation of the condemners ("they are corrupt and hypocritical themselves"), and appeal to higher loyalties ("there is a greater and higher cause"). Applying the techniques of neutralization allows for an individual to avoid feelings of guilt without the need to abandon their moral beliefs entirely.

The neutralization theory has been often used to explain why people with an otherwise intact ethical framework would engage in the criminal activity of digital piracy (Macneill, 2016). In her study of the piracy of Game of Thrones, Macneill noted how many of the respondents from the data pinned the blame for their unauthorized downloading behavior on factors such as price, mode of delivery and time delay. Macneill's (2016) study along with Sykes and Matza's (1957) neutralization theory, seems to indicate that the respondents feel that their action of piracy is justified and cannot be classified as a crime due to external variables, thus neutralizing the crime. Further quantitative research will be conducted in conjunction with Sykes and Matza's (1957) neutralization theory, to assess if individuals feel that online piracy does not directly affect content makers, effectively neutralising the crime they commit with the denial of injury ("no harm results from my actions") technique. This gives us the final hypothesis:

Hypothesis 10: Consumers neutralize the crime of piracy by stating no financial harm is done

According to Gopal and Sanders (1998), if software publishers have insight into the behavioural dynamics of software pirates, then it is possible to engage in more effective educational and legal campaigns to educate users about copyright laws and inspire attitudinal changes about appropriate copying behaviour. Echoing similar sentiments, the current study will attempt to gain insight into the behavioural dynamics and motivations of online pirates to compliment and contribute to existing literature. The aim of the findings will be for intellectual property owners and content providers such as Netflix and HBO to gain invaluable information in order to minimize the pirating

of their content. The next section will synthesize all of the literature covered so far into a theoretical framework to conceptualize the direction of the research.

2.6. Theoretical Framework

The theoretical framework below (Figure 1) is based on the hypotheses that were derived from existing research and presented throughout the literature review. Hypotheses will be listed below according to the sub-question they answer, in order to inform the reader about the functionality of the hypotheses in relation to the current study. Data and findings from all hypotheses will later be synthesized to provide answers for the two main research questions. Hypotheses for service-related issues were derived from existing research (Leaver, 2008; Cenite et al., 2009; Macneill, 2016; Wang, 2016; Sandvine, 2019) with the purpose of providing data for the first sub-question:

Sub-question 1: Is piracy of video content largely due to current service problems?
Hypothesis 1: Content is too dispersed across different streaming services Hypothesis 3: Consumers would rather get content instantly than wait for it Hypothesis 4: Consumers are more likely to pirate content if it is region locked

The following hypothesis is based on literature about demographic differences in piracy rates (Gopal & Sanders, 1998; Piquero, Piquero, 2006; Yu, 2013; Tjiptono et al., 2015; Tomczyk, 2019), and will answer sub-question 2:

Sub-question 2: Can consumer demographics predict likeliness to pirate?
Hypothesis 2: Demographics influence likeliness to pirate

Four hypotheses have been based on current criminology literature of online piracy (Sykes & Matza, 1957; Gottfredson and Hirschi 1990; Wall, 2005; Cronan and Al-Rafee, 2007; Higgins, 2006; Higgin et al., 2008) and will provide data for sub-question 3:

Sub-question 3: Do popular criminology theories apply to current consumers and pirates?
Hypothesis 7: Low levels of self-control predict likeliness to pirate in the future Hypothesis 8: Consumers with the ability to pirate are more likely to pirate in the future Hypothesis 9: Consumers with low moral obligation against piracy are more likely to pirate in the future Hypothesis 10: Consumers neutralize the crime of piracy by stating no financial harm is done

Further two hypotheses derived from the literature were categorized as miscellaneous and will provide supporting data for the two main research questions (Piquero & Piquero, 2006; Cenite et al., 2009; Karaganis & Renkema, 2013; Yu, 2013).

Hypothesis 5: Pirates are enthusiastic legal content consumers

Hypothesis 6: Pirates sample content before deciding to buy it

The theoretical framework (Figure 1) conceptualizes different factors that according to existing literature, contribute to consumer willingness to engage in online piracy of video content. Future piracy is the dependent variable being measured in the quantitative study and it located in the center of the framework. The hypotheses incorporated in the framework encompass the research questions and sub questions to help specify the research domain and data analysis process.

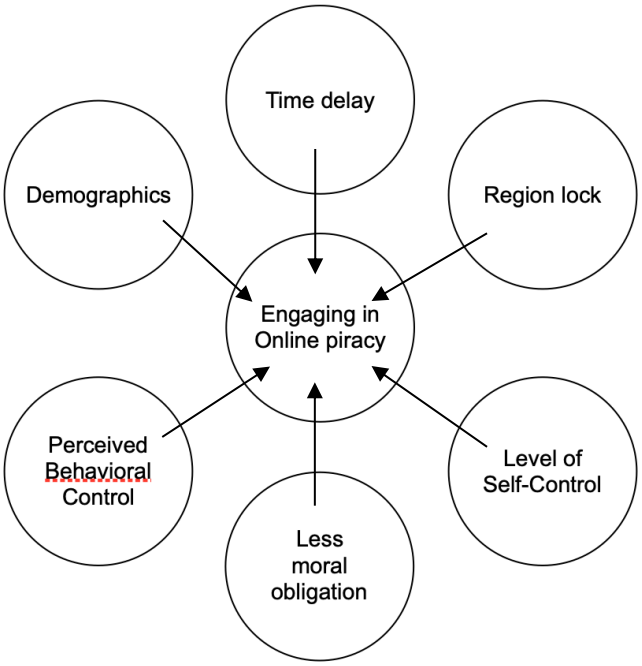

Figure 1- Theoretical Framework depicting factors that contribute to consumer piracy behavior

2.7. Conclusion

This literature review has covered the various facets of online piracy. It is a widespread global issue (Higgins & Morris, 2010) with many nuanced factors contributing to it, with the literature disproving the notion that online piracy is popular because it is free, as consumers may in fact only turn to piracy when they are unable to get content through legal channels. While online piracy may sometimes benefit businesses through new market creation (Choi & Perez, 2007), in general it is detrimental to intellectual property owners and their investments, such as films, which can cost hundreds of millions of dollars. Although there is an extensive body of literature covering online piracy and the reasons behind it, the landscape for content consumption is constantly changing with new technological advancements, causing shifting consumer demands. Existing criminology theories and online piracy case studies do partially explain the behavioral models of current consumers who pirate, but few studies to date have explored the current service issues in relation to online piracy of video content.

The current study, using the literature discussed as a foundation, will attempt to research why consumers and pirates alike currently engage in the online piracy of video

content, especially when streaming services had greatly reduced piracy rates the past few years (Nhan et al., 2020). The findings from the study will be then interpreted to provide a roadmap to guide content providers towards making business decisions that will ultimately lessen piracy rates of their video content. The next chapter will discuss the research methodology chosen for the current study, in order to explain the functionality of the methods and decisions made in the research process of this paper.

3. Research Methodology

The purpose of this chapter is to discuss the chosen research methodology and methods, as well as justify its use. Choosing the optimal research method is vital in order to answer the research questions and fulfil the objectives of this paper. The data generated by qualitative methods is considered subjective, while the data produced by quantitative methods is numerical and considered much more objective, thus leading to being the data gathering method chosen. Furthermore due to the goal of the thesis being the addition of knowledge to existing research, coupled with the time and resource limitations of the Bachelor's Thesis process, quantitative method emerged as the best alternative.

This thesis is based on primary and secondary data, with secondary data being discussed and explored in the literature review and used to form the research questions and hypotheses, and primary data collected to confirm, challenge or otherwise add to these hypotheses. The primary data that the research is based upon is quantitative data that was collected through a survey, which can be found in its entirety in the Appendix A. Surveys allow for data to be collected globally from individuals who have engaged in acts of piracy, allowing for findings to be generalized. In addition a survey was the method of data collection used in some of the studies discussed in the literature review, further solidifying it as a valid option.

3.1. Survey Design

The survey was conducted in the form of a questionnaire, which was designed using an online survey building tool called Webropole. Questions were designed in a manner in which individuals who do not engage in piracy would still be able to provide useful data with their responses in regard to the research questions. Demographic questions were moved to the last page of the questionnaire so as not to seem contradicting and discourage pirates from filling in the survey, who had been assured in the introduction that there would be no identifying information asked.

There were 18 questions with 16 of them being mandatory and a further two questions also being mandatory if the respondent answered “yes” to the questions asking if they own a paid subscription-based service and if they have pirated content. If they own a service, they were prompted to list the ones they own. It was emphasised that a service is “owned” and eligible to be ticked, only if the respondent personally pays for it. If answering yes to having pirated content, a 5-point Likert scale is given, with 1 being the minimum value and titled “Not important at all”, and 5 being the maximum value and titled “Very important”. The scale consisted of seven different factors which have been cited as reasons when choosing to pirate in the studies presented in the literature (Leaver, 2008; Cenite et al., 2009; Macneill, 2016). The motive behind these questions is to test the hypothesis put forward by Karaganis and Renkema (2013) that pirates are enthusiastic content consumers. Respondents were also asked if they can differentiate between streaming pirated content illegally and streaming authorised content legally, in order to filter out respondents who pirate unknowingly and thus can not offer the necessary insight needed for this study.

Questions 6-10 on page six were taken from Cronan and Al-Rafee (2007) Digital Piracy Scale. Questions 6-8 measured intentions to pirate in the future, question 9 was a Likert scale matrix question which measured ability to pirate, and question 10 was also a Likert scale matrix which measured moral obligation. The scales had values 1-5 ranging from “strongly disagree” to “strongly agree. These questions will be used to build three subscales for data analysis and will be discussed later in this chapter.

Every respondent is then asked to answer a mandatory 5-point Likert scale matrix question, with similar values as the other matrices, in order to gain data from respondents who have not engaged in piracy and thus could not participate in the earlier “motivations to pirate” matrix question. All questions asked in this matrix serve the purpose of gaining data to support or content the hypotheses and research questions of this paper. For example questions such as “ Content is spread out across to too many different streaming services” and “ It is too expensive to legally consume all the content I desire” are to test the hypothesis based on the Sandvine report (2019) due to dispersion of content, piracy rates are rising again. Questions related to region lock and content delay are crafted from findings by Leaver (2008) and Macneill (2016). To test Sykes & Matzas (1957) Neutralization theory and the technique of believing

one's action to not cause any harm, questions regarding the financial impact to content providers from one's pirating was asked.

The last Likert-scale 5-point matrix question is the Grasmick et al. (1993) scale of low self-control which measures self-control levels that are believed to predict criminal behaviour (Gottfredson and Hirschi, 1990). To avoid a bloated survey, the scale on the questionnaire uses half of the items from the original 24-item scale. This abbreviated scale measures the major dimensions of self-control: temperament, impulsivity, risk-taking, and self-centredness and produces results similar to the full scale (Rocque et al., 2013). Gottfredson and Hirschi (1990) state that their theory of Low Self-Control is consistent and universal across all genders and cultures, meaning the findings from the scale should be applicable to all respondents regardless of race and background. The scale was coded in similar fashion to other scales, with higher scores meaning lower self-control.

The last page of the survey consists of the demographic questions, such as age, gender, where the respondent is from, their employment status and where they acquired the link, though email and social media or a Reddit forum. These questions allow for the comparison of different demographics and piracy rates.

3.2. Data Collection

The survey was administered online in 5.3.2020 and deactivated five nights later at 10.3.2020, with 303 responses at the time of deactivation. The recorded answers from respondents during this timeframe means that the data regarding the topic is relevant and timely. The survey link was distributed through email to Aalto University School of Business, Mikkeli Campus, students and as well as dispersed to various social interaction forums on Reddit, that have to do with the topic of online piracy. The target group for the quantitative study was consumers and pirates of video content, with the intention of gaining data from across the globe in order to make generalizations with the findings. For the posts on Reddit, an introduction to my study was included along with assurances of anonymity due to the possibly incriminating answers that respondents have been asked to give. There were a total of seven piracy-related

"subreddits", or online forums on Reddits, where the survey was posted. Some of these "subreddits" had up to five hundred thousand members while the smaller ones ranged from a couple hundred to tens of thousands of members.

3.2.1 Table of Respondents

The survey received 303 responses, coming from 45 different countries and spanning six continents, with the majority coming from Finland with 114 (37.6%), The United States with 64 (21.1%) and Canada with 21 (6.9%). 173 (57.1%) of the responses came through the survey link posted on Reddit and 130 (42.9%) came though the link shared by email or on social media to personal acquaintances. 205 (67.7%) of the sample was male, 74 (24.4%) were female, 19 (6.3%) preferred not to specify and 5 (1.7%) were other. The majority of the sample being male is likely due to the fact that 57% of the respondents are from piracy related channels on Reddit, which can be assumed to be male-dominated. The average age of the respondents was fairly young at 25, the median age was 23 and the standard deviation was 9. The youngest respondent was 14 years old and the oldest respondent was 66 years old. Figure 2 shows the current occupation or occupations of all respondents. Due to the diversity of respondents, their occupation status also varied greatly, with the largest groups of respondents being from opposite ends of the spectrum: 114 students who are not currently employed and 84 full time employed individuals who are not students. In total there were 179 students and 124 non-students, which gives a well balanced sample to carry out statistical tests on.

		What is your employment status?			
		Not employed currently	Employed Part time (less than 35 hrs/week)	Employed Full time (35+ hrs/week)	Total
Are you currently a student?	Yes	114	51	14	179
	No	23	17	84	124
Total		137	68	98	303

Table 1 – Respondents' occupation

65.7% of all respondents stated that they pay for a subscription-based streaming service that allows for the consumption of content such as movies and television shows. Netflix had the highest amount of subscribers from the respondents with 170, Amazon Prime came second with 76 and HBO came third with 33. 92% of the sample (N = 303) had reported to have pirated content, with pirating being defined as illegally downloading or streaming content. 93% of the respondents also stated that they can differentiate a website streaming illegally pirated content and a website streaming legally authorised content. It can be reasoned that the 8% of respondents who reported to have never pirated content and the 7% who can not differentiate authorised and unauthorized websites are the same group of respondents, and allows for the assumption that the sample does not contain any individuals who have engaged in online piracy “accidentally” and would have needed to be removed from the collected sample.

3.3. Data Analysis

Data was subjected to statistical examination through IBM SPSS 26 software package. All data provided is kept anonymous and permission has been granted to utilise the data for strictly academic purposes. This data is interpreted and discussed in the following analysis and findings chapter, in conjunction with the hypotheses set forward in the current study. The following tables and figures in this chapter will be examined to purely give the reader an idea of what numbers to inspect and what they indicate when discussing the findings and analysis in the next chapter.

Four different questions about morality will be easier to run tests on and analyze when turned into a single variable. This can be done by creating a sub-scale out of the questions, by getting the average value of the questions when added. Questions should correlate with each other when creating a sub-scale. This is done by running a reliability test of the items (questions) you want to combine as depicted in Table 2. Generally the Cronbach’s Alpha (α) should be over .7 for the sub-scale to be considered reliable.

Reliability Statistics

Cronbach's Alpha	N of Items
.929	4

Table 2 - "Less Moral" subscale with Cronbach's Alpha of .929

An independent sample t-test can be conducted to see if there are any discrepancies between two independent groups. This is done by comparing the mean score of the groups to each other. For example using the Less Moral sub-scale we can see from Table 3, males have a higher mean (3.22 compared to 2.51) which means that when it comes to pirating, males view it as less unethical and morally wrong than females.

Group Statistics

	What is your gender?	N	Mean	Std. Deviation	Std. Error Mean
Less Moral	Male	205	3.2293	1.08346	.07567
	Female	74	2.5169	.97339	.11315

Table 3 - Conducting an independent sample t-test with gender as the variable. Higher mean score indicates that men have lower moral standards in regards to piracy than women

A bivariate correlation test can be conducted when exploring if there is a relationship between two variables. The Pearson Correlation Coefficient in the table gives us a number from -1 to 1 which indicates to what extent the two variables are linearly related. A significance level of 5% (.05) or more, means that it is not significant, but anything below indicates that it is statistically significant. As seen in Table 4, the number .000 is a number that is rounded up, so below 0.05. The answers are written in the form Pearsons correlation (r), Significance value < 0.05 or 0.001, so for example the answer below would be modelled as r (301) =.527, p < .001 and indicates that there is a strong correlation.

Correlations

		Less Moral
Less Moral	Pearson Correlation	1
	Sig. (2-tailed)	
	N	303
Online piracy is OK in some situations	Pearson Correlation	.527**
	Sig. (2-tailed)	.000
	N	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 - Positive correlation between the two variables subjected to a bivariate correlation test

Linear regressions were also done to see if a variable or variables could predict the outcome of another variable. These regression models will be explained in detail in the next section.

3.3.1 Piracy Sub-Scales

The following segment will briefly introduce the sub-scales that were created with the data that was extracted from the survey. These sub-scales are vital and will be used throughout the process of conducting statistical tests as well as analyzing and interpreting data.

Intentions to pirate in the future (Cronan and Al-Rafee, 2007) was made into a single variable called “Future Piracy”, by constructing a sub-scale with the following 3 items “I intend to pirate content in the near future”, “I will try to pirate content in the near future” and “I will make an effort to pirate content in the near future”. The respondent was asked on a scale of 1-5 with 1 being “definitely will not” and 5 being “definitely will” on how likely they are to engage in piracy in the future. The scale was found to be highly reliable with a Cronbach’s Alpha (α) of .957.

A sub-scale for the lack of moral obligation (Cronan and Al-Rafee, 2007) against piracy was created by asking respondents to agree from 1-5, with 1 being strongly disagree and 5 being strongly agree, to five items. These items were: it is morally wrong to " Watch pirated content online", "Download pirated content online", "Upload pirated content", "Buy pirated content" and "Share pirated content with friends and family". " It is morally wrong to buy content" was removed when creating the scale to increase reliability to $\alpha = .929$. The variables were then reversed for consistency, with 1 indicating strongly agree and 5 indicating strongly disagree. This was done with the readability of the paper in mind and meant that having a higher mean in the sub-scale, which was named "Less Moral", means an individual has less of a moral obligation to go against piracy and does not view is as unethical as someone with a lower mean.

The ability to pirate (Cronan and Al-Rafee, 2007) sub-scale measures how easy it is for someone to pirate and how capable they perceive themselves to be when it comes to pirating, so Perceived Behavioral Control. The respondent was asked to agree to the following statements on a scale of 1-5, "It would be easy for me to pirate content, " I believe that I have the ability to pirate content", "I have the resources necessary to pirate content" and "I can find content to pirate if I wanted to". The scale was named " Ability to pirate" with significant reliability at $\alpha = .935$.

The Grasmick et al. (1993) scale of low self-control will use 12 items from the original 24 items and will measure self-control, which according to Gottfredson and Hirshi (1990) is a primary indicator for criminal behaviour. The scale was reverse coded to indicate a higher score means higher self-control for better readability of the statistical tests conducted and has Cronbach´s Alpha of .781.

3.4. Research Ethics

The work and research conducted in this paper has not been plagiarised nor stolen. All respondents have been provided with a brief overview of the research being done, contact details as well as full anonymity and confidentiality of their identity as well as their responses. The data will be used for strictly academic purposes of this thesis. Respondents are aware of the publication of the paper to relevant platforms and upon

request will be sent a copy as well. The data gathered from the respondents is stored in a .sav file with two copies existing on the personal computers of Dr. Suzanne Altobello and author of this paper, Muzaddid Ahmed. The data file has not been shared in any platforms and it will not be distributed nor published in the future.

3.5. Conclusion

In conclusion, a quantitative data gathering method in the form of a survey was the optimal option for the purposes of this research since data needed to be gathered from as many different regions as possible. Data was gathered from 45 different countries with 303 respondents answering the survey, allowing for the generalization of findings. An explanation of the SPSS data analysis has been provided for readers to be able to interpret the results of the statistical tests in the next chapter. Regional, occupational and gender frequencies of the sample were discussed, and the formation of the sub-scales utilized in the research process was explained in-depth. The following chapter will discuss and analyze the findings from the quantitative study in conjunction with the hypotheses.

4. Analysis and Findings

The purpose of this chapter is to present and analyze the findings from the quantitative study. The findings will be presented in the order of micro-, meso- and macro-level analysis, starting with factors such as the influence of gender and moral obligation on piracy behavior, moving onto current global service issues that contribute to piracy and ending with the differences in piracy rates between continents. The chapter ends with a synthesis of the findings which will go through the findings in the numbered order of the hypotheses.

Multiple tests were conducted and analysed in relation to each hypothesis as to provide adamant proof and establish a firm consensus.The findings were consistent with findings from existing literature, with current service issues such as time delays of content release and regional locks being key factors in consumers' likeliness to pirate. Demographics also influenced piracy rates as males were more likely to pirate than females, North American respondents had the highest intentions to pirate in the future and Asian respondents had strongest agreeableness to not having access to content they desire and likeliness to pirate if this was the case. However, Gottfredson and Hirshi's (1990) general theory of self-control did not possess any positive or causal relationship with the act of pirating, nor was sampling content a huge factor when choosing to pirate. The findings will be presented and analyzed in detail in this chapter, with the next chapter integrating the findings and the research objectives in the form of a discussion.

4.1. The role of self-control in content piracy

Gottfredson and Hirshi (1990) claim that an individual who has less self-control is more likely to engage in delinquent and criminal behaviour, and this theory has been often linked to online piracy behaviour by researchers such as Higgins (2006). Gottfredson and Hirshi also claim females to have more self-control resulting due to differences in child-rearing and this in turn leads females to commit less crimes. A bivariate correlation test was conducted by using the Self-Control (α = .781) and Future Piracy (α =.957) sub-scale and found there to be no correlation between piracy and self-

control, r (301) = -.34, p > .05. This is in line with Moon et al. (2012) study of 2712 Korean youths in which they also found there to be no correlation between computer crime and self-control levels of gender, even though girls did possess significantly higher self-control than boys. This suggests that while females indeed do have higher self-control than males, this is not a factor which causes females to engage less in online piracy and a relationship between online piracy and self-control does not exist. The theory, even though very frequently cited throughout the last few decades, is possibly a bit too outdated to be used in conjunction to the research of online piracy since the internet landscape has shifted dramatically in the last thirty years.

4.2. Piracy and moral obligation

Two tests were conducted, one to see if there's a correlation between having less moral obligation against piracy and intentions to pirate (Cronan and Al-Rafee 2007) in the future, and another which compares the means of two sample groups. Having a high mean in the Less Moral sub-scale indicates that the sample has less moral obligation against piracy and does not view it as unethical as someone with a lower mean. A higher mean on the Future Piracy sub-scale indicates that the sample is more likely to pirate in the future.

A bivariate correlation test was conducted using the sub-scales Future Piracy (α =.957) and Less Moral (α = .929) as seen on Table 5 below. It was uncovered that having less moral obligation against piracy and intentions to pirate in the future were significantly in correlation (r (301) = .436, p < .001). This is consistent with Cronan & Al-Rafee's (2007) findings.

Correlations

		Future Piracy	Morality_Recoded
Future Piracy	Pearson Correlation	1	.436**
	Sig. (2-tailed)		.000
	N	303	303
Less Moral	Pearson Correlation	.436**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 - Consumers with less moral obligation against piracy are much more likely to pirate in the future.

An independent sample t-test was conducted between respondents from Reddit who are recognized as current pirates and rest of the sample, asking for their level of agreement from 1-5 to the statement ”the benefits of piracy outweigh the risk”, to examine differences in attitude between established pirates and average consumers. The Reddit sample (M = 4.21, SD = *1.25*) reported significantly higher agreeableness to the statement than the other sample group (M = *3.11*, SD = 1.04) as seen on Table 6. Meaning the sample of current pirates strongly agree that the benefits of piracy outweigh the risks that come with the illegality of their actions, while the more mixed group of content consumers are neutral minded in this matter. A final test was conducted with these two groups and the Less Moral (α = .929) sub-scale in order to not leave space for any inaccuracies. The Reddit group (M = 3.43, SD = 1.06) had a notably higher mean, meaning they did not view piracy as unethical as the other sample group (M = 2.51, SD = .93).

Group Statistics

	Where did you acquire the link to this survey?	N	Mean	Std. Deviation	Std. Error Mean
The benefits of piracy outweigh the risk	Social media or email	130	3.1154	1.25528	.11010
	Reddit Forum	173	4.2139	1.04293	.07929

Table 6 - Pirates more likely to favour the benefits of piracy than the average consumer

In conclusion the findings are consistent Cronan and Al-Rafee´s (2007) research in which low moral obligation predict future piracy. Furthermore, average consumers were more neutral about the benefits outweighing the risk, while established pirates have a more positive attitude towards it.

4.3. Perceived behavioral control

Cronan and Al-Rafee (2007) stated in their research that the perceived ease to engage in the criminal behavior, so in this case ability to pirate, also influences intentions to pirate in the future. An earlier study by Wall (2005) echoed similar sentiments that the ease of internet use allows individuals to develop capabilities to pirate which then leads to online piracy. To test these postulations a simple bivariate correlation test was administered with the sub-scales " Ability to Pirate (α = .935.)" and " Future Piracy (α = .957)". The two items correlated significantly , r (301) = .483, p < .001 as seen on Table 7, meaning that possessing the ability to pirate and the perceived ease of it has a positive linear relationship with future piracy, proving the hypothesis factual.

Correlations

		Future Piracy	Ability_to_pirate
Future Piracy	Pearson Correlation	1	.483**
	Sig. (2-tailed)		.000
	N	303	303
Ability to Pirate	Pearson Correlation	.483**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7 - Ability to pirate significantly correlates with future piracy

The sample (N = 303) contained 173 (57.1%) responses from Reddit and 130 (42.1%) responses from individuals who had acquired the survey personally on social media or email, making for a very even comparison with almost equal groups. A firm assertion can be made that the Reddit sample consists entirely of current pirates since they

acquired the survey from piracy related forums, while rest of the sample is more mixed, containing average consumers and pirates, so is not nearly as homogenous.

Group Statistics

	Where did you acquire the link to this survey?	N	Mean	Std. Deviation	Std. Error Mean
Ability to Pirate	Social media or email	130	4.1038	.94561	.08294
	Reddit Forum	173	4.6358	.66879	.05085
Future Piracy	Social media or email	130	2.6128	1.40186	.12295
	Reddit Forum	173	4.4412	.92478	.07031

Table 8 - An independent sample t-test showing respondents from Reddit had a more favorable attitude towards online piracy

An independent sample t-test was conducted and revealed (see Table 8) that respondents from Reddit had a higher mean (*M = 4.63, SD = .668)* on the ability to pirate sub-scale and a significantly higher mean in the intentions to pirate in the future sub-scale (*M = 4.44, SD = .924).* This gives ample evidence to reason that individuals who can be currently classified as pirates have significantly stronger intentions to continue pirating in the future and are more likely to possess the necessary capabilities to engage in online piracy. Overall findings are consistent with earlier research (Cronan and Al-Rafee, 2007).

4.4. Gender Differences in Piracy

Several studies in the literature review discussed the notion that one gender might be more susceptible to crimes such as internet piracy than another, forming the hypothesis that piracy levels between demographics differ. These notions were rooted in academical studies such as Tomczyk's (2019) recent study of 4121 Polish Male adolescents who were more likely to pirate, Tjiptono et al. (2015) who found that in Indonesian universities males have a more positive attitude towards downloading illegally from the internet than females, and the multiple studies based on the esteemed criminologists Gottfredson and Hirshi (1990) self-control theory which argues that females have higher self-control, which translates to engaging in less criminal activity,

such as online piracy. Though the sample size of the present study (N = 303) shrinks in comparison to the above studies and their sample group of many thousands, two of these studies focused on a homogeneous sample group from their respective countries Poland and Indonesia, meaning results are hard to generalise over different countries and cultures. The following sample (n= 303) contains 45 different nations, thus producing a more representative picture of gender and piracy relations.

An independent sample t-test was conducted with gender as the variable. The means of males (n = 205) and females (n=74) in the sub-scales Self-Control (α = .781), Less Moral (α = .929), Ability to Pirate (α = .935), Future Piracy (α =.957) and the question " I prefer to pirate instead of legally consuming content" were compared. Males had a significantly higher mean in almost every single variable except for Self-Control.

Group Statistics

	What is your gender?	N	Mean	Std. Deviation	Std. Error Mean
Self-Control	Male	205	3.9675	.48397	.03380
	Female	74	3.9955	.43529	.05060
Less Moral	Male	205	3.2293	1.08346	.07567
	Female	74	2.5169	.97339	.11315
Ability to Pirate	Male	205	4.5963	.64278	.04489
	Female	74	3.8243	1.02930	.11965
I prefer to pirate instead of legally consuming content	Male	205	2.6341	1.23978	.08659
	Female	74	2.0000	1.08539	.12617
Future Piracy	Male	205	3.9984	1.26003	.08800
	Female	74	2.5676	1.50568	.17503

Table 9 - An independent sample t-test revealed males to possessed less self-control, more favourable attitudes towards piracy, better capabilities and understanding of piracy. higher preference to pirate instead of legally gaining content and were more likely to pirate than females

This proves Gottfredson and Hirshi's popular (1990) theory of self-control true that females have higher self-control, even though only just marginally with the male mean for self-control being 0.03 less than females (which is arguably a non-existent factor but none the less will be measured later on). For the other variables, in sum males displayed a significantly more favourable attitude towards online pirating of content as seen on Table 9. This suggests that the findings are consistent with existing literature, with males being more susceptible to online piracy behaviour than females, however

females make up only 24.4% of the overall sample which leaves space for inaccuracies.

4.5. Neutralizing the act of piracy

Sykes and Matza's (1957:664) neutralization theory states that offenders have a guilty free conscience when neutralising the crime by shifting the responsibility or blame to external factors and failing to identify their actions as criminal. A hypothesis was formed in concurrence with a neutralization technique from this theory known as the " denial of injury". When utilizing this technique in relation to online piracy, individuals perceive to not financially impact content providers when pirating their content.

Respondents were asked to state their agreeableness on a scale of 1-5 with five being " Strongly Agree": on two statements regarding financial relations to content makers. The first statement was "I want to support content makers" and "If I pirate content, it won't affect content providers (e.g. Warner Bros, HBO & Disney)".

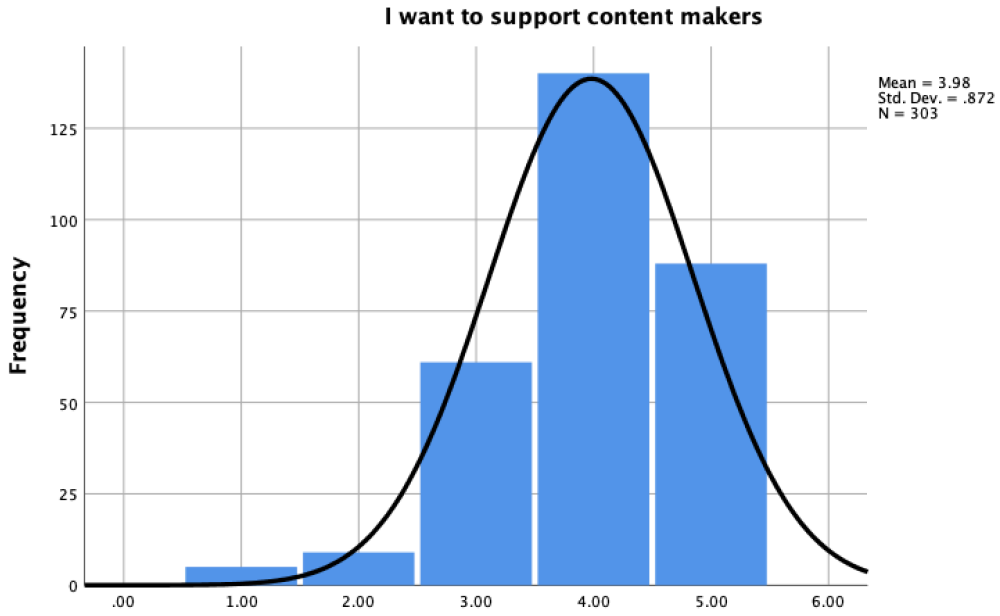

Figure 2 - 75.2% of all respondents want to support content makers

As seen on Figure 2, respondents were almost in unison in regard to agreeableness for supporting content makers, with 228 (75.2%) out of all respondents agreeing or

strongly agreeing that they want to support content makers, as seen on Figure 7 (*M* = 3.98, *SD* = .872). The data confirms the statement by the Singaporian file-sharers in the study by Cenite et al. (2009) that if content is enjoyed it should be bought as a sign of acknowledge towards the content makers.

For the statement "If I pirate content, it won't affect content providers (e.g Warner Bros, HBO & Disney)" the results were more varied. 157 (51.8%) agreed or strongly agreed that when they pirate content it won't affect content providers, 61 (20.1%) were neutral and 85 (28.1%) disagreed or strongly disagreed to the statement. 75.2% of the sample stated their desire to help content providers but 51.2% (N = 303) agreeing or strongly agreeing that their individual actions won't hurt content providers showcases the neutralization theory at work, specifically the denial of injury ("no harm results from my actions") technique.

There was also significant correlation with the agreeableness to the statement "If I pirate content, it won't affect content providers" and intentions to pirate in the future ($r(301) = .400$, $p < .001$). Indicating that the more a consumer feels like they are not causing any financial harm, the more likely they are to pirate in the future.

This suggests that while the majority of consumers want to help content providers, be it as a sign of acknowledgement or wanting to financially support content providers, half don't believe that their actions of piracy will affect the very content providers they want to support, and the stronger the feelings of not affecting content makers, the more likely they are to pirate in the future. However the wording of the question could give way to some unconscious bias since the examples used were multibillion dollar conglomerates such as Warner Bros and Disney. It can be theorised that providing adequate education about the harms of online piracy would prevent a consumer from using neutralization techniques for online piracy.

4.6. Sampling Content

Cenite et al. (2009) study of 45 Singaporean file-sharers revealed that one reason for online piracy is to sample the content, or in other words test it, in order to judge if the

individual wants to purchase it. When asking the respondents who engage in piracy how important of a reason this is, 48.2% disregarded it as a factor and 13% were neutral, which gives ample evidence to conclude that the hypothesis of sampling movies and television shows is not a major reason in online piracy. This is illustrated in Figure 6.

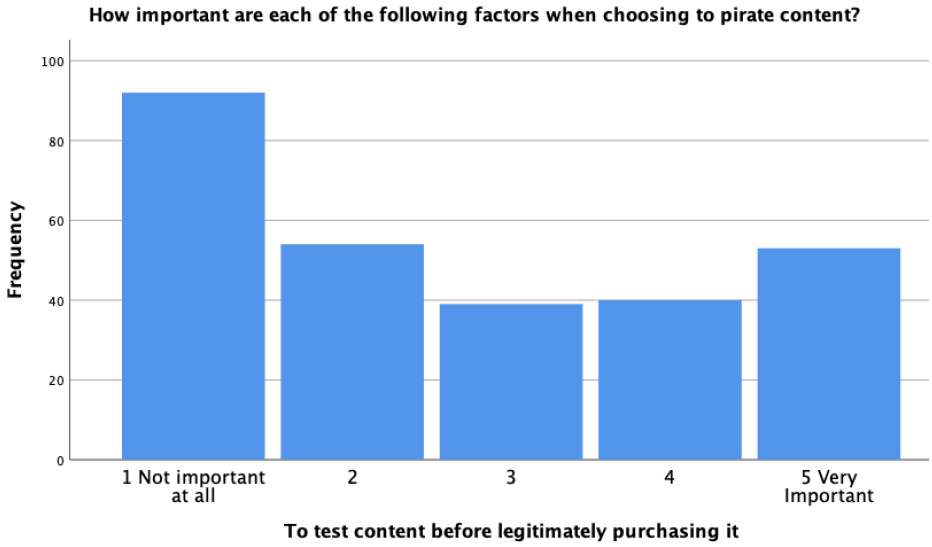

Figure 3 - When pirating, sampling is not regarded as an important factor

It can be inferred that the sampling needs of most consumers are fulfilled by most content streaming services who do offer a free trial for a set period of time to try out their service free of charge.

4.7. Are pirates enthusiastic content consumers?

As discussed in the literature review, Ma et al. (2016) and Karaganis and Renkema (2013) put forward the notion that contrary to popular belief, pirates might in fact be heavy content consumers. The concept of pirates being eager content consumers was further displayed in Leaver's (2008) study of Battlestar Galactica fans and Cenite et al. (2009) study of Singaporean youth who agreed that content should be purchased as a sign of acknowledgement.

A bivariate correlation analyses was conducted to examine the relationship between having paid subscriptions to streaming services and intending on pirating in the future. For the test the future piracy sub-scale was used, which was found to be exceedingly reliable (α = .957), and the variable “PAIDSUB” which indicated the amount of paid subscriptions one has. As seen on Table 9, It was found that the number of paid subscriptions and intentions to pirate in the future were in correlation, r (197) = .173, p < .05.

		FUTUREPIRACY	PAIDSUB_number
FUTUREPIRACY	Pearson Correlation	1	.173*
	Sig. (2-tailed)		.015
	N	303	199
PAIDSUB_number	Pearson Correlation	.173*	1
	Sig. (2-tailed)	.015	
	N	199	199

*. Correlation is significant at the 0.05 level (2-tailed).

Table 10 - Positive correlation between intentions to pirate and paid subscriptions

Meaning that the more paid subscriptions one owns, the more likely they were to pirate in the future. Even though it is a weak correlation, it is a positive relationship that can be rationalised with the assertion that pirates are indeed heavy content consumers and it is not mutually exclusive for pirates to pay for content as well as pirate it, proving the hypothesis of pirates being eager content consumers correct.

4.8. Service problem

Gabe Newell´s (2011) assertion that piracy stems from a service problem had plenty of backing as seen on the multiple studies discussed in the literature review. Leaver´s (2008) study of the Australian Battlestar Galactica fans indicated that the fans turned to piracy only when they were geographically region locked from watching the content without delay, Macneill (2016) echoed similar sentiments that the practice of delayed screenings in Australia has cultivated a culture of piracy, and according to the report by Muso (2019), the Game of Thrones premiere was pirated 54 million times in its first 24 hours of release, due to the failure of a simultaneous global release. These factors

all indicate that piracy has the upper hand due to offering superior service, so the following sections will investigate if these service issues are indeed a contributing factor to rising piracy rates.

4.8.1 Region locks and delays

In order to assess the severity of region locking and delaying content to consumers, respondents were asked questions in which they had to state their agreeableness with regards to this issue. The respondents who had engaged in online piracy (n = 278) were asked to rate on a scale of 1-5 with 5 being very important, the importance of the following factors when pirating: content not being available in their geographical location and waiting time for content to arrive in legal channels.

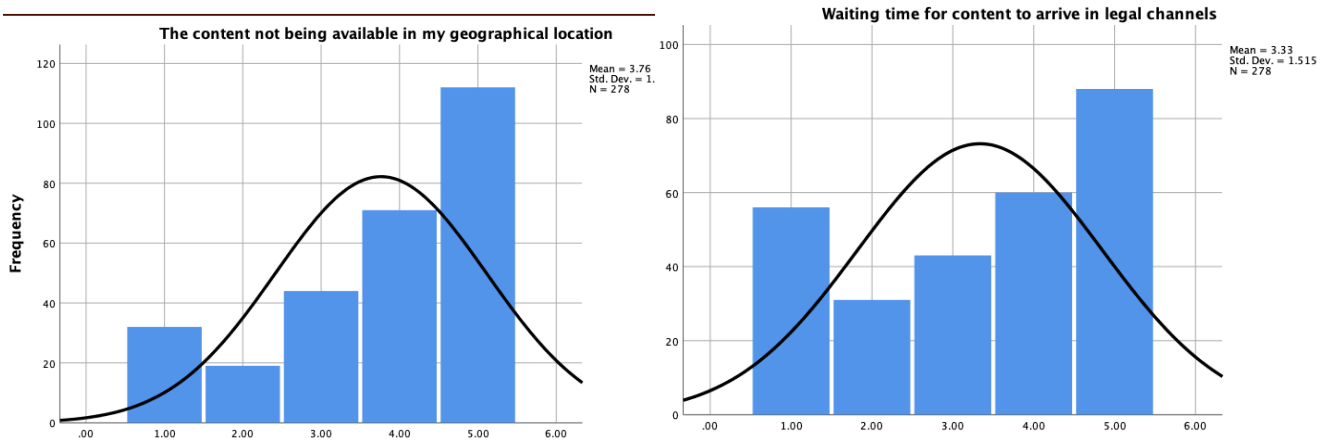

Figure 4 & 5 - Importance of region lock and waiting time when choosing to pirate

As seen on Figure 4 & 5, 112 (40%) of the respondents who were pirates stated that it was a very important factor when streaming or downloading content illegally and 71 (26%) reported that it was important (*M*= 3.8, *SD* = 1.3). 148 (48.8%) respondents reported that the waiting time was important or very important (*M = 3.3, SD = 1.5)*. This suggests that for nearly half of the sampled pirates, the content not being available in their geographical region and the waiting time for it arrive on legal channels such as Netflix and HBO, plays a vital role when choosing to pirate, essentially boiling down to a service issue.

According to Figure 6, 57.8% of all respondents (N = 303) reported that they agree or strongly agree with the assertion that content they want to view is usually not available in their geographical region (*M* = 3.5, *SD* = 1.2). The sample being from 45 different countries and nearly 60% agreeing or strongly agreeing that the content they desire is not available in their geographical region strongly hints as region locking being a primary factor why services have been losing customers and potential customers to services offered by pirates, which explains the rise in piracy in recent years (Sandvine Report, 2019)

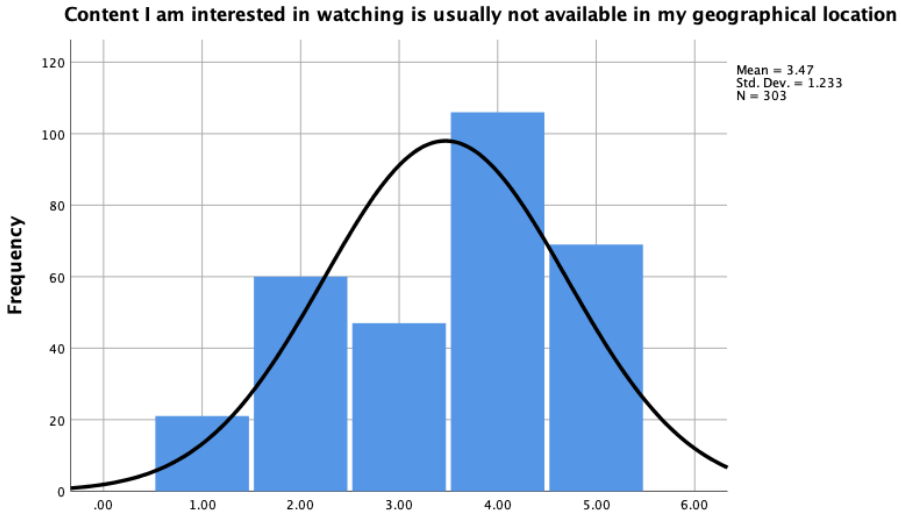

Figure 6 - Respondents' desired content is region locked

Of all respondents, 221 (73%) agreed or strongly agreed with the statement that they would rather watch content instantly than wait for it (*M* = 4, *SD* = 1) as seen on Figure 7. As seen on Leaver's (2008) study, the Battlestar Galactica fans wanted to consume the content instantly without delay in order to have the full experience with other fans, and Game of Thrones was pirated 54 million times in the first 24 goes of it's premiere due to delayed premiers elsewhere. It can be feasibly stated that content consumers want content instantly without delay and not to be region locked from content that is available in other geographical areas. Since the data is collected from 45 different

countries, it gives a fairly representative picture of global consumer needs that current streaming services are failing to satisfy.

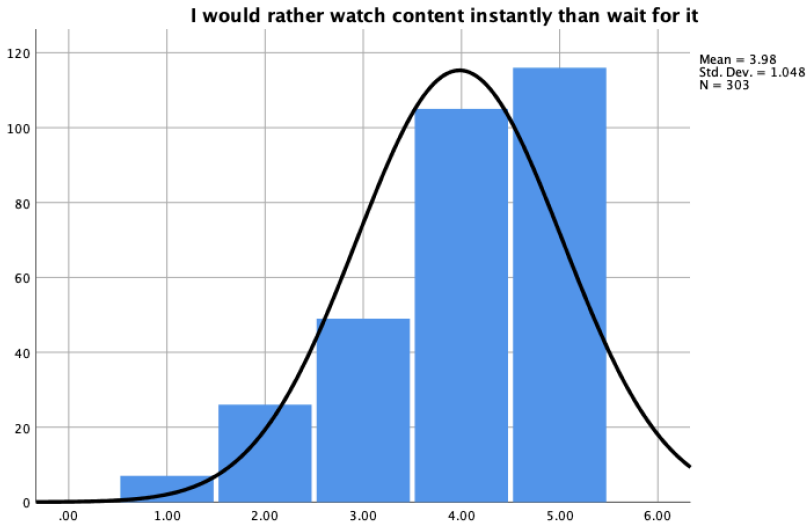

Figure 7 - 73% of respondents agreed or strongly agreed to wanting content instantly without delay

265 (87%) of all respondents (N = 303) agreed or strongly agreed that they are more likely to pirate the content if it is not available in their geographical region. To examine this potentially strong relationship further, a simple linear regression analysis was carried out to test if content being geographically region locked and agreeableness to piracy because of it, predicted future piracy. As seen below, the regression model produced R^2 =.269, F (1,301) = 110.95, $p < .001$ which is considered a significant regression with the predictor explaining 27% future piracy variance (R^2 = 0.269). The linear equation in this regression model for predicting intentions to pirate in the future based on the predictor is .187 (constant) + .796, meaning for each point of increase in agreement to pirate due to region locking, future piracy intentions increase by .796.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.519[a]	.269	.267	1.25492

a. Predictors: (Constant), If the content is not available in my country, I am more likely to pirate it

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	174.725	1	174.725	110.948	.000[b]
	Residual	474.023	301	1.575		
	Total	648.748	302			

a. Dependent Variable: Future Piracy

b. Predictors: (Constant), If the content is not available in my country, I am more likely to pirate it

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.187	.337		.556	.579
	If the content is not available in my country, I am more likely to pirate it	.796	.076	.519	10.533	.000

a. Dependent Variable: Future Piracy

Table 11,12 & 13 - Simple linear regression found content not being available in ones own region and likeliness to pirate in this scenario predicts 27% of future piracy.

This model does an immense job in predicting future piracy behaviour as the R square predicts that 27% of future piracy can be amounted to likeliness to pirate if not having access to content in their region.

4.8.2. Fragmentation of streaming services

Streaming services and their inexpensive price point had greatly decreased piracy rates over the last couple of years (Nhan et al., 2020), however with major networks pulling content from other services and launching their own exclusive services there is a fragmentation in the market, which the Sandvine Report (2019) states has created an uptick in online piracy. The following segment will examine the general perceptions

of the direction streaming services are headed in order to map out recommendations that are rooted in empirical research for services to use and improve their current business model.

To explore how big a factor the fragmentation of streaming services are, all respondents (n = 303) were asked to state their agreeableness on a scale of 1-5 with 5 being “Strongly Agree” on the statement “ Content is too spread out across different streaming services”. Figure 8 depicts that 245 (80.9%) of all respondents agreed or strongly agreed to this statement with a mean of 4.22 and a standard deviation of .959. The data, being from 45 different countries and spanning six continents, provides close to conclusive evidence that consumers feel like the content they desire is behind too many paywalls, or in other words multiple paid subscriptions to services, and suggests that this trend may contribute to future online piracy.

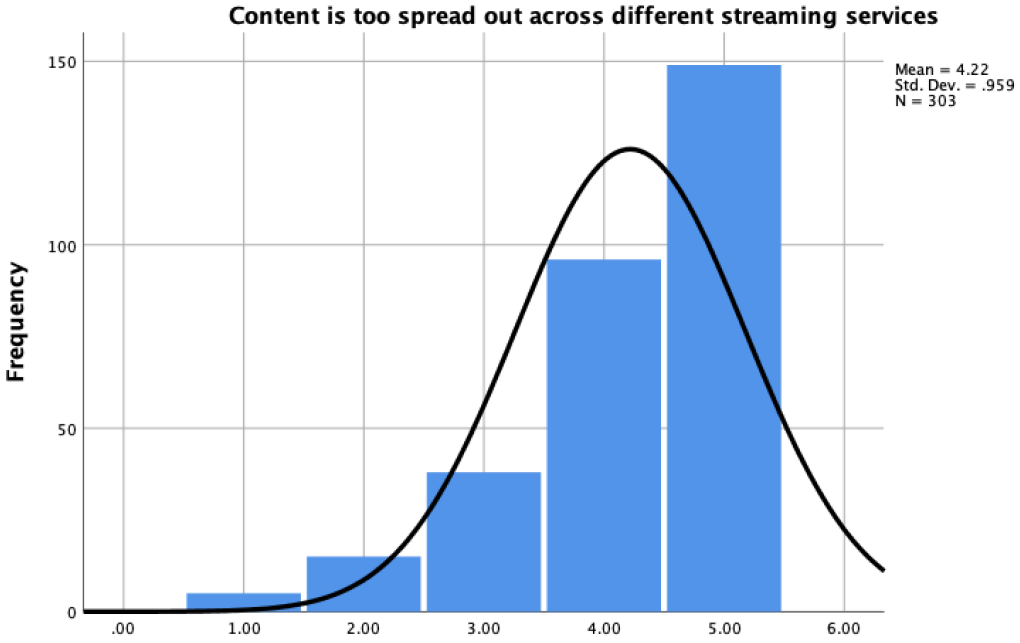

Figure 8 - 81% of respondents agree or strongly agree to content being too dispersed

Since the dispersion of content across various streaming services have made it very expensive to consume all the content an individual may desire, a cross-tabulation was made between students, part-time employees, full-time employees and any mix of these with the variable “ It is too expensive to legally consume all the content I desire”, to examine if there are any potential differences between income levels and content

dispersion. The respondents were asked to answer the statement on a scale of 1-5 with 5 being “Strongly Agree” . Table 14 details the frequencies of their answers as well as current occupation or occupations.

Crosstabulation

Count

It is too expensive to legally consume all the content I desire			What is your employment status? Not employed currently	Employed Part time (less than 35 hrs/week)	Employed Full time (35+ hrs/week)	Total
Strongly Disagree	Are you currently a student?	Yes	2	5		7
		No	2	0		2
	Total		4	5		9
Disagree	Are you currently a student?	Yes	18	11	2	31
		No	1	0	7	8
	Total					39
Neither agree or disagree	Are you currently a student?	Yes	11	7	2	20
		No	1	3	7	11
	Total					31
Agree	Are you currently a student?	Yes	32	11	4	47
		No	5	4	27	36
	Total					83
Strongly Agree	Are you currently a student?	Yes	51	17	6	74
		No	14	10	43	67
	Total					141
Total	Are you currently a student?	Yes	114	51	14	179
		No	23	17	84	124
	Total		137	68	98	303

Table 14 - Crosstabulation between students, part time and full time employees, highlighted groups agreed to desired content being too expensive to consume

The highest frequencies from a single category on the scale was highlighted for readability purposes and offers intriguing insight. “Agree” and “Strongly Agree” received the largest amount of responses and these came from two opposite ends of the group spectrum, students who are unemployed and full time employees who are not students. Both of these groups, despite the arguably vast difference in wealth and resources, agreed or strongly agreed that it is too expensive to consume all desired content. This suggests that despite being a student with no income or a full time employee, content is too dispersed for a consumer’s liking and the amount of income they have is not factor when sharing such views, it is just too unrealistic to be subscribed to so many services. This gives as enough evidence to reason that content providers are not facing a pricing problem but a service problem, corroborating Valve

CEO, Gabe Newell's (2011) statement about the issue of piracy almost always being service related.

A multiple regression analysis was then conducted with the the above two statements: " Content is too spread out across different streaming services" and " It is too expensive to legally consume all the content I desire" , used as independent variables to test if they predicted respondents intentions to pirate in the future, using the Future Piracy sub-scale as the dependent variable.

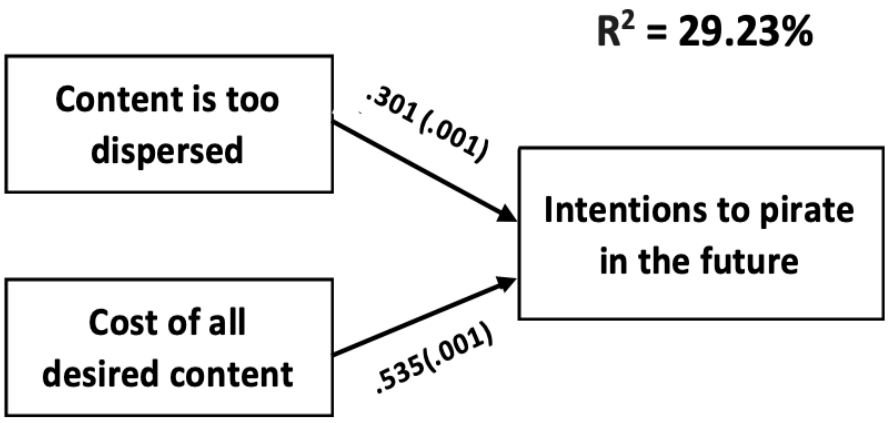

Figure 9 – Multiple regression analysis with the two coefficients and future piracy as the constant

The results of the regression illustrated in the Figure 9 indicates that the two predictors " Content is too spread out across different streaming services" and " It is too expensive to legally consume all the content I desire" explained 29.3% of the variance (R^2 =.293, $F(2,300) = 62.227$, $p < .001$). It was found that content being dispersed across services significantly predicted future piracy behaviour ($\beta = .301$, $p < .001$) as did it being too expensive to consume all desired content ($\beta = .535$, $p < .001$). This analysis tells us that 29.3% of future piracy can be explained with the two statements, regarding fragmentation of streaming services and expenses of maximising desired content consumption, meaning that the model is a significant regression.

4.9. Continental piracy differences

Piquero and Piquero (2006) examined piracy data from 82 different countries and found that countries with lesser levels of democracy had higher rates of software piracy. While software piracy is not the subject of this paper, having data from 45 countries gives enough data to conduct a similar study but on a broader scale since the scope of this thesis does not allow for the research of individual countries and piracy. Yu (2013) compared international Asian students and American students from American Universities and found the Asian students to be much more favourable towards online piracy even though both groups possessed the similar levels of general morality. With these studies in mind, the continental differences in online piracy will be explored.

A variable was formed, named " Continent" which contained three groups, North America with 88 respondents, Europe with 165 respondents and Asia with 33 respondents. Australia, Africa and South America could not be measured since they did not contain enough respondents for the data to be considered statistically reliable. A One-Way Analysis of Variance (ANOVA) test was conducted with these three continents with Future Piracy as the dependent variable. There was statistically significant difference between the continents as determined by the one-way ANOVA ($F(2,283) = 27.23$, $p < .001$). North America reported highest rates of intentions to pirate in the future ($M = 4.43$, $SD = 0.91$), Asia slightly less ($M = 3.96$, $SD = 1.30$) and Europe notably less ($M = 3.13$, $SD = 1.55$), these values are plotted in Figure 10 below.

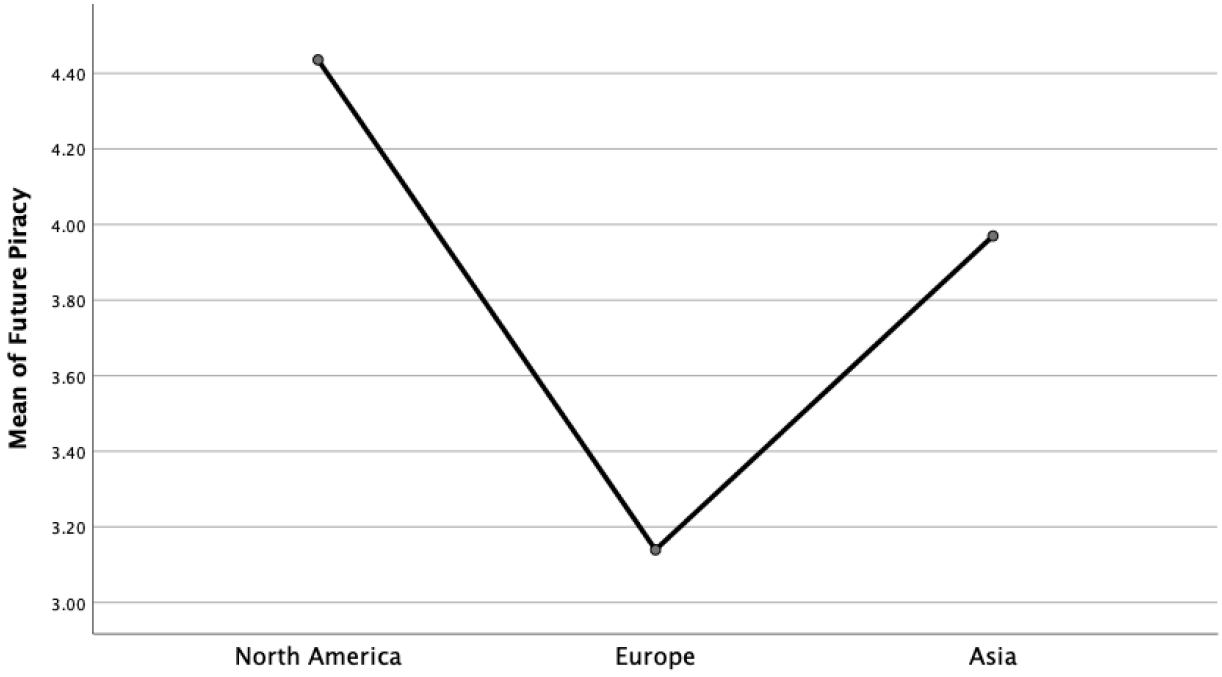

Figure 10 - Mean differences between continents in intentions to pirate in the future

An independent sample t-test was then carried out between North America and Asia with the " Less Moral" sub-scale as the variable to test Yu´s (2013) assertion that consumers from both continents have roughy the same moral standards but Asian students favored piracy. It was found that North America had a higher mean (*M* = 3.40, *SD* = 1.05), so less moral obligation against piracy than Asia (*M* = 2.96, *SD* = 1.29), thus is not consistent with Yu's (2013). The results suggest that North American respondents tend to favour online piracy more and do not view it as unethical as the Asian respondents. The sample of Asians however contained only 33 (10.9%) respondents out of the entire sample (N = 303) while North America had 88 (29%) respondents, which can lead to statistical inaccuracies and differences compared to Yu's study. However it should be noted that Yu's study was conducted seven years ago as of present time, and contained a sample residing in The United States of America only.

Further One-Way ANOVA tests were carried out to examine mean differences with regards to geographical region lock and piracy. The contrast between continents for the statement " Content I am interested in watching is usually not available in my geographical region" was significant, $F(2,283) = 16.14$, $p < .001$ with North America reporting a remarkably lower mean (*M* = 2.97, *SD* = 1.27) than Europe (*M* = 3.50, *SD* = 1.14) and Asia (*M* = 4.30, *SD* = 0.95). A reasonable explanation for Figure 11 is that The United States is a source for large quantities of highly desired video content

(Sandvine Report 2019), meaning that a lot of the content is only accessible in North America.

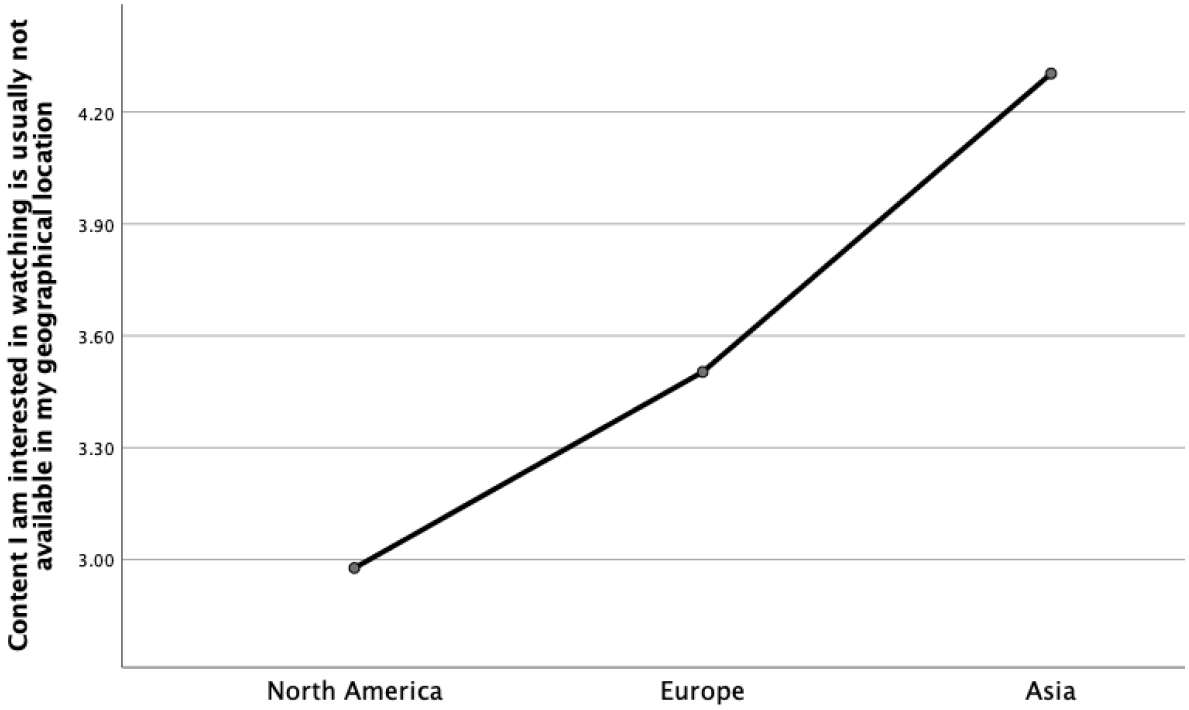

Figure 11 - Respondents from Asia strongly agree that content they desire is not available in their region (Above). Figure 12 (Below) –available in their region

The last One-Way ANOVA test was carried out with the variable "If the content is not available in my country, I am more likely to pirate it" and produced similar significant results ($F(2,283) = 11.60$, $p < .001$) as illustrated on Figure 12. Although the mean differences between North America ($M = 4.57$, $SD = 0.82$), Europe ($M = 4.12$, $SD = 1.02$) and Asia ($M = 4.78$, $SD = 0.41$) weren't as large as previous analysis. Respondents from Asia again reported a higher mean so in the context of this variable, were more likely to pirate content that is not available in their region compared respondents from North America and Europe. North American respondents however were more likely to pirate content if it was not available in their region compared to European respondents, even though the respondents from North America reported lesser cases of not having access to content due to regional restrictions.

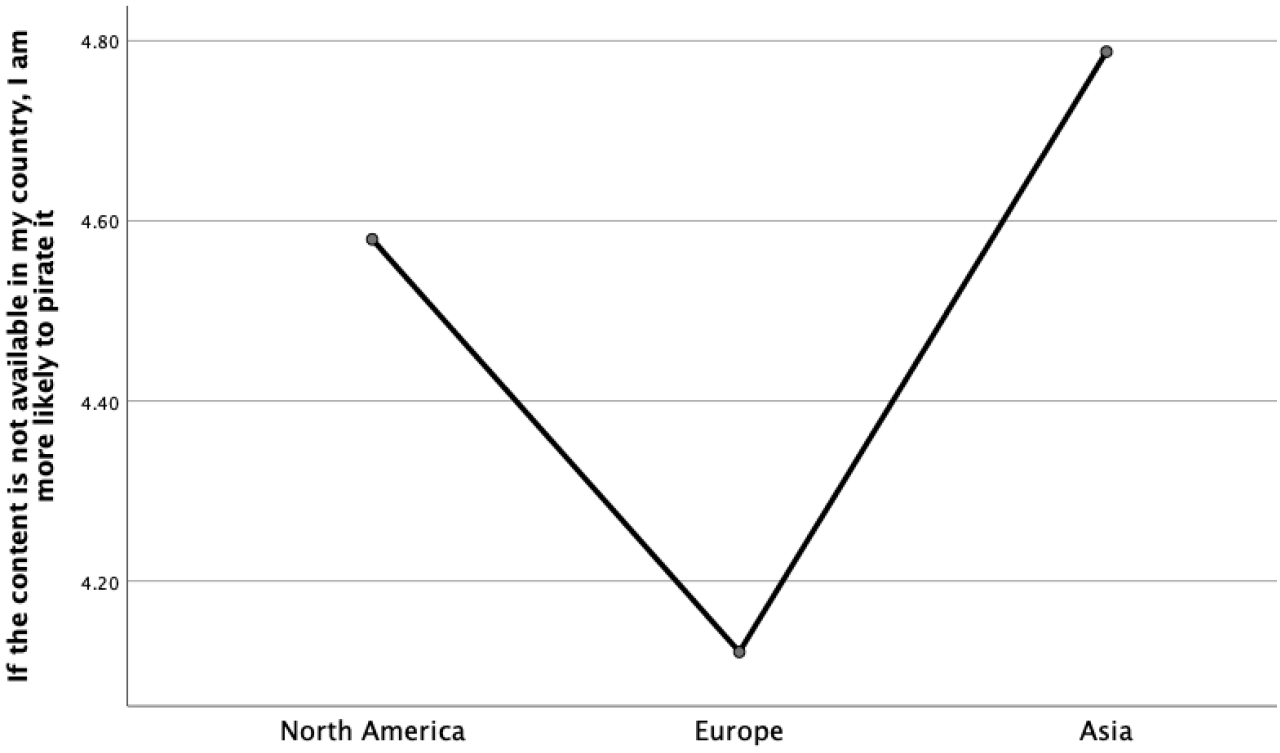

Figure 12 - Asian and North American respondents were more likely to pirate than Europeans if the content was not available in their region

Respondents from Asia again reported a higher mean so in the context of this variable, were more likely to pirate content that is not available in their region compared respondents from North America and Europe. North American respondents however were more likely to pirate content if it was not available in their region compared to European respondents, even though the respondents from North America reported lesser cases of not having access to content due to regional restrictions. It can be inferred that this is the case because the question presents a hypothetical scenario where content is not available and since North American respondents had higher piracy intentions than respondents from other continents, they reported high likeliness to pirate if the content was not available despite rarely facing this issue.

4.10. Synthesis of the Findings

The current study had a total of ten hypotheses that were derived from existing literature discussed in this paper. The hypotheses helped guide the direction of the quantitative study and subsequent findings will help reach the research objectives set forward

in this paper. This section will present the hypotheses in numerical order in conjunction with the findings uncovered in this chapter, to examine which hypotheses were supported and which were not, and how they relate to one another.

Hypothesis 1: Content is too dispersed across different streaming services

The hypothesis was strongly supported with 245 (80.9%) respondents agreeing or strongly agreeing that video content is too spread out between different streaming services, resulting in a fragmentation of the market. Sandvine (2019) report believes this to be a primary reason why online piracy of video content is rising again and the findings seem to indicate the same, as content dispersion and the cost of consumption for all desired content predicted 29.3% variance of future piracy according to a multiple regression analysis.

Hypothesis 2: Demographics influence likeliness to pirate

Findings indicate that males have a generally more positive attitude towards online piracy and are notably more likely to pirate in the future than females. Regional differences were also apparent, with the sample from North America most likely to pirate, the sample from Europe the least likely and the Asian sample had the highest agreeableness to being regionally locked from content and having the highest likeliness to pirate if content is unavailable in their region.

Hypothesis 3: Consumers would rather get content instantly than wait for it

Nearly half (48.8%) of the respondents who have pirated stated delays in content release was an important or very important reason why they choose to pirate, and 221 (73%) out of all respondents (N = 303) agreed or strongly agreed with the statement that they would rather watch content instantly than wait for it, supporting hypothesis 3. The data also supports Wang´s (2016) assertion that users' desire for immediate access to new content.

Hypothesis 4: Consumers are more likely to pirate content if it is region locked

This hypothesis was strongly supported with 265 (87%) of all respondents (N = 303) agreeing or strongly agreeing that they are likely to pirate the content if not available in their region. A simple linear regression found likeliness to pirate if content is region locked to significantly predict future piracy with 27% variance. This in conjunction with hypothesis 3 indicates that region locked content and the subsequent release delays significantly contribute to future piracy intentions.

Hypothesis 5: Pirates are enthusiastic content consumers; Pirating content and legally acquiring content is not mutually exclusive

There was a positive relationship between the number of paid subscriptions to streaming services and intentions to pirate in the future, albeit a very weak correlation (.173). This provides further prove that consumers and pirates alike do not pirate simply because it is free, but due to existing service issues leaving eager content consumers using online piracy to gain the content that legal channels don't provide them. Pirates being eager content consumers adds clarity to hypothesis 3 and 4 on why consumers and pirates are willing to pirate content if not regionally available or has a delayed release.

Hypothesis 6: Pirates sample content before deciding to buy it

This hypothesis was rejected as 48.2% of consumers who pirate, disregarded it as a factor when pirating and 13% were neutral. Most streaming services offer a trial period which allows for the sampling of the service through legal means. Pirates sampling content is a more popular option with video games, which is outside the scope of the current study.

Hypothesis 7: Low levels of self-control predict likeliness to pirate in the future

Although from Gottfredson's and Hirschi's (1990) general theory of self-control is very popular in criminology, and females in the sample did have marginally higher self-control, no correlation was found between self-control levels and intentions to pirate in the future, thus the hypothesis is rejected and the rejection is consistent with similar results by Moon et al. (2012)

Hypothesis 8: Consumers with the ability to pirate are more likely to pirate in the future

A significant correlation was found in this hypothesis, individuals with higher ability to pirate was more likely to pirate in the future. The findings are consistent with Cronan and Al-Rafee´s (2007) findings. Males also had higher ability to pirate then females, which would explain hypothesis 2 in which males were much more likely to pirate in the future.

Hypothesis 9: Consumers with low moral obligation against piracy are more likely to pirate in the future

The data firmly supported this hypothesis, with low moral obligation against piracy having a very strong correlation with intentions to pirate in the future, again supporting previous research conducted by Cronan and Al-Rafee (2007). Males had less moral obligation against piracy and did not view it as unethical as females, supporting the data in hypothesis 2 that males are more likely to pirate than females.

Hypothesis 10: Consumers neutralize the crime of piracy by stating no financial harm is done

The data supported this hypothesis as 75.2% (228) of all respondents (N = 303) agreed or strongly agreed that they want to support content makers, but 52% (157) of the sample agreed or strongly agreed to the statement that their personal acts of piracy wont financially affect content providers. Significant correlation was also found with level of agreeableness to the statement and intentions to pirate in the future.

4.11. Conclusion

In conclusion the theoretical framework was an effective tool to anchor the current study and research process on. The framework successfully portrays crucial factors that contribute to consumer intentions to pirate video content. The results suggest that

online piracy of video content is predominantly a service issue, with gender and geographical differences influencing piracy behavior. The majority of the hypotheses were supported with two being rejected.

The data and findings presented in conjunction with the main research question and its sub questions fulfil the research objectives of this paper. The main research question inquires the biggest factors and motivations that contribute to online piracy, these were found to be service-related issues. Through regression analysis, it was found that service issues, such as content not being available in one's own region and content being dispersed across different streaming services, significantly predicted likeliness to pirate in the future. These findings also provide an answer for the first sub question, if online piracy largely stems from current service issues.

Consumer demographics were also proven to predict likeliness to pirate. Males had a generally more favourable attitude towards online piracy and were more likely to pirate in the future as compared to females. Geographical differences in piracy rates were also apparent, with respondents from North America having the highest piracy intentions but the most desired content legally available, respondents from Asia having the least desired content available and the most likely to pirate in this scenario, and respondents from Europe the least likely to pirate in the future out of these three continents.

Most of the criminology theories introduced in the literature still do apply to current pirates and consumers who engage in piracy, except for Gottfredson's and Hirschi's (1990) general theory of self-control. Respondents were found to neutralise crimes (Sykes & Matza, 1957) of online piracy by believing they do not cause financial harm and ability to pirate as well as low moral obligation against it predicted likeliness to pirate in the future (Cronan & Al-Rafee, 2007).

The findings seem to indicate that current fragmentation of the streaming service market and regional locking of content are huge factors that contribute to online piracy, while sampling is a non-existent factor. Content providers need to explore the possibilities of partnering up and offering their service in bundles, or merging. Consumers should also be educated about the extent of the harm online piracy causes economies

around the world, especially the U.S, in order to stop the usage of neutralization techniques when engaging in online piracy. Proper internet ethics should also be taught to consumers at a young age, as acquiring the ability to misuse technology in the form of online piracy leads to likeliness to pirate in the future.

5. Discussion

Using survey data from 303 respondents, across 45 different countries, the current study sought to contribute to existing literature on content piracy as we as the motivating factors behind it, and what can be done to reduce piracy rates. Core service issues were identified as key factors as to why consumers engage in online piracy and existing criminology theories were still applicable to current pirates. Findings indicate that content providers and businesses should educate consumers about the financially detrimental effects online piracy has on the economy, in order to block the usage of neutralization techniques that consumers utilize. Content providers and businesses should also strive for synchronized global distribution of content to further reduce piracy rates. Next, this chapter will elaborate on the multitude of ways the current study adds and contributes to existing literature. The discussion will be structured with the sub research questions discussed first, and then the main research questions addressed last to conclude this chapter.

5.1. Is online piracy of video content largely due to current service problems?

Due to streaming services such as Netflix and their inexpensive price point, online piracy rates had decreased significantly over the last couple of years (Nhan et al., 2020), however according to existing literature, online piracy has been on the rise due to a host of service issues in current streaming services and other content distribution channels (Macneill, 2016; Sandvine, 2019). The findings of this study support previous findings as online piracy seems to predominantly be a service issue. A notable number of respondents reported to wanting to consume content instantly and not having access to desired content in their own region. Furthermore, being region locked from content also significantly predicted intentions to pirate in the future, these findings were consistent with previous research (Leaver, 2008; Macneill, 2016). Majority of the respondents reported that content is too dispersed across streaming services and this factor also was a strong predictor of future piracy, proving the assertion by Sandvine (2019) of market fragmentation to be true. Cenite et al., (2009) found sampling to be a variable behind online piracy but this was found to be a nonfactor in the current study. It can be inferred this is because most services offering video content provide a free

trial period, and sampling is a more popular option with music and video games, which are not accounted for in the current study.

5.1.1 Can consumer demographics predict likeliness to pirate?

Consumer demographics were found to be significant predictors in intentions to pirate in the future. Males had a significantly more favourable attitude towards online piracy of video content, including less moral obligation against it, better ability to engage in piracy and higher intentions to pirate in the future, than females. This is consistent with the findings of all previous studies discussed in the literature (Gopan & Sanders, 1998; Tjiptono et al., 2015; Tomczyk, 2019). Karaganis and Renkema (2013) highlighted that piracy is rampant among youth, specifically consumers under the age of 30, this was statement was found to be applicable in the current study as well since 92% of the sample had engaged in online piracy and the mean age was 25. The respondents from North America were more likely to pirate and had less moral obligation against piracy than the respondents from Asia, therefore not supporting Yu's (2013) findings of Asian students being more favourable towards online piracy. However the limitations should be kept in mind, with 10.9% (33) of the whole sample (N = 303) being from Asia and 29% (88) being from North America.

5.1.2 Do popular criminology theories apply to current consumers and pirates?

According to Morris & Higgins (2010), existing theories of crime, with a couple exceptions, were not developed with the digital environment in mind. Even so these theories have been used to understand digital piracy better in order to lead to a more informed social response. There was no link between low self-control levels (Gottfredson & Hirschi, 1990) and likeliness to engage in piracy, which is inconsistent with previous research (Higgins, 2005; Higgins, Wilson, & Fell, 2005; Higgins et al., 2006). Females had marginally higher self-control, which is consistent with the aforementioned studies, but this was not a factor in why they pirate less, a study by Moon et al. (2012) had similar results to this. However, low moral obligation against piracy and ability to pirate

were found to be substantial predictors in likeliness to pirate in the future, thus supporting previous research (Cronan & Al-Rafee, 2007). Males having a higher mean in both of these factors explains why they are more likely to pirate.

Respondents also stated to wanting to help content makers, but half of the sample (N = 303) believed that their acts of piracy does not create a financial impact on content providers, effectively neutralizing the crime. Furthermore, there was a notably positive relationship between agreeableness levels to the statement of not financially impacting content providers and intentions to pirate in the future. These results lend considerable support to Sykes and Matza's (1997) neutralization theory as well as Macneill (2016) of the Australian Game of Thrones fans who neutralized the crime by blaming external variables.

5.2. What are the main factors and motivations for consumers when choosing to engage in online piracy of video content?

Paraphrasing Gabe Newell (2011), online piracy stems from current service issues and the findings of the current study support the consensus reached by previous research (Leaver, 2008; Macneill, 2016). Service drawbacks such as region locked content and time delays are the main contributing factors to the online piracy of video content. Demographics such as gender also influenced piracy rates, as Wall (2005) states, the ease of internet use facilitates online piracy, and males were found to have higher ability to pirate than females, which significantly correlates with intentions to pirate in the future as proven by the current study and previous research (Cronan and Al-Rafee, 2007). Further demographic influence was seen with respondents from Asia having highest agreeableness to not having access to desired content in their region, and highest agreeableness to the likeliness of pirating content in this scenario.

The greatest contribution of this study may be the profound support the data provided on consumers' likeliness to pirate due to the fragmentation of the streaming market and the subsequent content dispersion. Sandvine's report (2019) infer this dispersion of content is what created an uptick in piracy rates of video content, when in recent years piracy rates had greatly decreased (Nhan et al., 2020), and due to this market

fragmentation being such a new phenomenon, little academic research has been conducted on the matter. The results from the current study undoubtedly proof the notion put forward by Miyazaki et al. (2009) that it is often marketplace conditions that push consumers to condone or even engage in piracy-related behaviour in the first place. Since the sample contained respondents from 45 different countries, these findings can be generalised and offer a geographically much broader perspective on consumer motivations and factors that contribute to piracy compared to the studies discussed in the literature.

5.3. How can these findings be utilised by businesses and content providers to reduce piracy rates?

Choi and Perez (2007) argue that pirates directly contribute to the creation of new markets and innovative business models, as well as provide priceless source of market insight. The findings of the current study serve as the valuable market insight in question, which can be utilised by businesses and content providers to minimize piracy rates of their video content when designing their business models, services or distribution channels.

The study indicates that pirates are eager content consumers through legal methods also, which is in line with the results of previous research (Leaver, 2008; Karaganis & Renkema, 2013; Macneill, 2016). This further proves the notion that pirates don't engage in piracy simply because it is free, and are willing to pay for content, which should come as a relief for content providers and businesses as pirates considered a potential and untapped customer base. However, the study indicates the both unemployed students and full-time employees (35+ hours a week) feel like all desired content is too expensive to consume due to content dispersion across services. This suggests that income is not a factor in choosing to pirate, and consumers see this as a service issue instead of pricing issue. Content providers should start to consider the option of streaming service package deals as suggested by Sandvine's report (2019) or mergers, in order to effectively tackle online piracy.

As the previous sections explained, consumers from the current study and previous literature (Leaver, 2008; Macneill, 2016) attribute current service issues, such as region lock, as the biggest factor when choosing to pirate. Eager consumers, will consume content through means of piracy when faced with these service issues, as was the case with Indian Game of Throne fans who pirated the premiere 9.5 million times in the first 24 hours of its release (Muso, 2019). Regional locking of content and delayed releases need to addressed, for example Asian cultures, specifically East Asia, are generally described as a collectivistic culture and emphasise sharing (Wu & Keysar 2007), which could lead to higher future piracy rates, and the respondents from Asia for the current study reported highest agreeableness to not having access to desired content and the highest likeliness to pirate content in these scenarios. Content providers and businesses need to start prioritising synchronised global distribution (Leaver, 2008), or customers to piracy. However, there is the possibility that a lot of consumers are not aware when content becomes available in their region, leaving businesses with the task to increase promotion when adding content to a certain region where it was previously unavailable.

Ma et al., (2016) believe if consumers were interested in buying the content, they would have bought it in the first place in order to support content makers and enable them to provide more content. However, the current study indicates that consumers neutralize the crime by denying any financial harm (Sykes & Matza, 1957) from their acts of piracy. It can be inferred that providing seminars at schools or educational campaigns about the detrimental effects of online piracy would inspire attitudinal change in these consumers as suggested by Gopal and Sanders (1998).

The sample from Reddit, consisting of existing pirates, had a significantly more favourable attitude towards online piracy, intentions to pirate in the future and the statement “benefits of piracy outweighs the risk”, while the rest of the sample were more neutral towards this statement. An explanation for this is provided by Higgins and Morris (2010), who note that the probability of facing repercussions for digital piracy is low, which current pirates are likely more aware of than the average consumer. It can then again be suggested that teaching internet ethics and the harms of online piracy to consumers from a fairly young age would help reduce future piracy rates, as once a consumer engages in regular piracy activities, they will have a much more favourable

attitude towards it and are more likely to do it in the future as shown by the current study and previous research (Cronan & Al-Rafee, 2007; Higgins et al., 2008). As to why these educational campaigns should be targeted towards young consumers, piracy is rampant among the youth (Karaganis & Renkema, 2013) and 92% of the sample for the current study have pirated with the mean age being 25. This chapter will now end with a brief summary of the discussion.

5.4. Conclusion

As Wang (2016) stated, online piracy needs to be understood in the context of a fast-evolving relationship between audience and content, and these findings help understand that fast-evolving relationship. Data was collected from 45 different countries which allows for the generalisation of findings. The findings were consistent with the prior research of Leaver (2008) and Macneill (2016), with underlying service issues such as region lock and delayed releases being significant predictors in consumer intentions to pirate in the future. As inferred by Sandvine's report (2019), the data shows that the recent uptick in online piracy of video content can indeed be amounted to content dispersion across streaming services, as this was a notable predictor in intentions to pirate in the future as well. Findings also supported most of the various criminology theories discussed in the literature except for Gottfredson and Hirschi (1990) general theory of self-control. Based on the data and prior literature, businesses and content providers are strongly suggested to engage in synchronised global distribution of content as well as engage in educational campaigns about the detrimental effects of online piracy.

6. Conclusions

To conclude the paper, a general and brief overview is presented. The main findings are presented first which will summarize the core findings of the current study. Then the managerial implications will be discussed, followed by limitations of the study and suggestions for further research.

6.1. Main Findings

The purpose of the current study was twofold. The first goal was to map out current factors and motives of consumers and pirates alike who engage in the online piracy of video content such as movies and television shows. The second goal was for businesses and content providers to be able to utilise these findings in order to decrease the piracy rates of their video content. The research objectives of the study were met, and the findings were mostly consistent with earlier findings from the literature.

Through the quantitative research conducted, online piracy seems to stem from service problems more than any other factor. Online pirates are enthusiastic content consumers and are willing to pay for services, and the majority of the consumers want to support content providers. However when faced with content being region locked, time delays, dispersion of content across streaming services and general fragmentation of the market, consumers will resort to piracy and even neutralise their moral beliefs and values with different techniques, such as denial of injury in which they state to causing no financial harm, to rationalise pirating. Pricing and income levels are not an issue since unemployed students and full time employees all perceived that the current method of acquiring all desired content to be too expensive.

Demographic differences in piracy rates were also established with males having a significantly favorable attitude towards online piracy than females. Males possessed higher ability to pirate and less moral obligation against it, which correlated notably with intentions to pirate in the future, providing an explanation as to why females weren't as likely to pirate. Females possessed slightly higher self-control, but this was found not to be a contributing factor when engaging in online piracy.

Continental differences existed with Asian respondents reporting the highest levels of agreement on content not being available in their region and also were the most likely to pirate if the content was not available. North-America reported the lowest levels of agreement to content not being available and this can be amounted to the fact that the United States is a source for large quantities of highly desired video content (Sandvine Report 2019).

While consumers should be educated from a young age about the legal and financial consequences that are caused by online piracy, content providers need to start offering consumers simultaneous global release of video content, bundled package deals if the dispersion of content continues and increase general availability of content that consumers desire in different market regions. Despite limitations, the current study has contributed to the empirical understanding of online piracy motivations and to the study of criminology theories' relevance in the modern digital landscape.

6.2. Managerial Implications

The purpose of this section is to explore how content providers and subscription-based streaming services can utilise these findings to improve their business models, services and distribution channels to maximize the consumption of their video content though legal acquisition and reduce piracy rates.

" The Impacts of Digital Video Piracy On The U.S Economy" (2019), a joint study by the U.S Chamber of Commerce and Global Innovation Policy Center estimate that the U.S economy loses at minimum $29.2 billion dollars annually, due to piracy of paid digital tv and movie content. With the current fragmentation of the market through dispersion of content and the trend of region or delayed releases, these numbers are only set to continue in an upward trajectory with consumers resorting to online piracy to consume content. It would be in the best interests of businesses, intellectual property holders and content providers to design their services as well as distribute content with the consumer demand in mind. Pirates are proven to be paying consumers and consumers can potentially turn to piracy if their demands are not satisfied though traditional legal methods. Regional content differences in streaming

services should be minimised, with the optimal outcome being that content would have synchronized global distribution in order to avoid high piracy rates. According to the data gathered, Asian consumers felt the most excluded from accessing desired content and this could as well as be true for South-America, Africa and Australia like prior literature indicated. Prioritising these global markets will allow for the legal consumption of content to grow and reduce online piracy rates of video content.

Online piracy is a popular occurrence among youth and since learning to pirate is a significant predicter in future piracy intentions, young consumers as well as the average consumer, should be targeted with educational to teach them the extent of the impact online piracy of video content has on economies. This would restrain consumers from neutralizing the crime of piracy by facilitating the realization of the tangible financial and societal consequences of online piracy.

6.3. Limitations

This chapter will take a look at a number of limitations that were identified during the process of research, data gathering and analysis. Limitations of a study should be identified and recorded so as to help future researchers recognise existing barriers and work around them to further the research in this field.

A prominent limitation with the quantitative method of data gathering was that respondents could not ask for clarifications on any of the survey sections nor questions in general while completing the survey. Some respondents were also in confusion about the nature of survey, when asked to list streaming services in which they consume content such as movies and television shows, three responses included Spotify, a music streaming service. This could be due to the lack of reading the instructions clearly or lack of clarification from the survey's part.

The examples provided on the statement "If I pirate content, it would affect content providers (eg, Warner Bros, Disney & HBO)" could have used other examples instead of multibillion-dollar conglomerates which could have given the perception that pirating doesn't hurt any content providers at all. Majority of the respondents stated that they

want to support content providers but half reported that they don't think their acts of piracy hurt them. This could be due to the wording of the statement and the example provide.

Several detailed comments were posted on Reddit threads by current pirates who stated that the survey does not account for one critical reason they pirate: Pirated content being superior. An example of this was that a pirated movie filetype was compatible with all the devices the user used, while a movie acquired from a legal channel like Itunes was not. Some users also stated that they pirate content that simply is not available anymore. The content provider could have discontinued the product and distribution of a movie or television show that was released decades ago and the only means to get this content is though pirating it, at which point it is of no harm to the content provider since the product is not in production.

6.4. Suggestions for Further Research

Based on main findings, managerial implications and limitations of the research conducted in this paper, suggestions for further research was devised and recorded.

For more accurate data, a bigger sample of respondents should be collected from the continents South-America, Africa and Oceania. Also the sample should be a bit more diverse as this one was 37.6% Finnish. A set of interviews could be viable option as it provides detailed needs of average consumers and why piracy may be an attractive option for them. Responses from a similar sample group as the one discussed in literature (e.g. Australians) would also allow for the comparison of findings.

Future studies could also focus on online piracy as a whole, taking into account other content such as books, video games, music and software to better understand intentions to illegally download content from the internet. This would also lead to researching different method of dealing with online piracy depending on the type of content being researched, and these different methods researched together could give a core underlying reason or reasons to further understand online piracy.

References

Bowen, J. (2005). *Anticipation: The Real Life Story of Star Wars: Episode I-The Phantom Menace*. 1st ed. iUniverse, p.166.

Cenite, M., Wanzheng Wang, M., Peiwen, C. and Shimin Chan, G. (2009). More Than Just Free Content. *Journal of Communication Inquiry*, 33(3), pp.206-221.

Choi, D. and Perez, A. (2007). *ONLINE PIRACY AND THE EMERGENCE OF NEW BUSINESS MODELS*. [online] Available at: https://pdfs.semanticscholar.org/add1/651d6c40a849b27cf97f418939d655c9d096.p df

Cronan, T. and Al-Rafee, S. (2007). Factors that Influence the Intention to Pirate Software and Media. *Journal of Business Ethics*, 78(4), pp.527-545.

Diamant-Cohen, A. and Golan, O. (2016). Downloading culture: community building in a decentralized file-sharing collective. *Information, Communication & Society*, 20(11), pp.1737-1755.

Digital TV Research (2017). *Online TV & movie piracy losses to soar to $52 billion*. [online] Available at: https://www.digitaltvresearch.com/ugc/press/219.pdf

Global Innovation Policy Center (2019). *Impacts of Digital Piracy on the U.S Economy*. [online] U.S Chamber of Commerce. Available at: https://www.theglobalipcenter.com/wp-content/uploads/2019/06/Digital-Video-Piracy.pdf

González, L. (2007). FANSUBBING ANIME: INSIGHTS INTO THE 'BUTTERFLY EFFECT' OF GLOBALISATION ON AUDIOVISUAL TRANSLATION. *Perspectives*, 14(4), pp.260-277.

Gopal, R. and Gupta, A. (2010). Trading Higher Software Piracy for Higher Profits: The Case of Phantom Piracy. *Management Science*, 56(11), pp.1946-1962.

Gopal, R. and Sanders, G. (1998). International Software Piracy: Analysis of Key Issues and Impacts. *Information Systems Research*, 9(4), pp.380-397.

Gopal, R., Sanders, G., Bhattacharjee, S., Agrawal, M. and Wagner, S. (2004). A Behavioral Model of Digital Music Piracy. *Journal of Organizational Computing and Electronic Commerce*, 14(2), pp.89-105.

Gottfredson M. R., Hirschi T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

Grasmick, Harold G., Charles R. Tittle, Robert Bursik, and Bruce Arneklev. (1993). Testing the Core Empirical Implications of Gottfredson and Hirschi's General Theory of Crime. *Journal of Research in Crime and Delinquency* 30(2), pp. 5–29.

Higgins, G. (2006). Gender Differences in Software Piracy: The Mediating Roles of Self-Control Theory and Social Learning Theory. *Journal of Economic Crime Management*, [online] 4(1).

Higgins, G., Fell, B. and Wilson, A. (2007). Low Self-Control and Social Learning in Understanding Students' Intentions to Pirate Movies in the United States. *Social Science Computer Review*, [online] 25(3), pp.339-357.

Higgins, G., Wolfe, S. and Ricketts, M. (2008). Digital Piracy. *Social Science Computer Review*, 27(1), pp.24-40.

Johns, A. (2009). Piracy: The Intellectual Property Wars from Gutenberg to Gates. *Chicago: University of Chicago Press,* Pp. 626

Karaganis J., Renkema L. (2013) *Copy-culture in the US and Germany*. American Assembly, Columbia University.

Leaver, T. (2008). Watching Battlestar Galactica in Australia and the Tyranny of Digital Distance. *Media International Australia*, 126(1), pp.145-154.

Ma, L., Montgomery, A., Singh, P. and Smith, M. (2014). An Empirical Analysis of the Impact of Pre-Release Movie Piracy on Box Office Revenue. *Information Systems Research*, 25(3), pp.590-603.

MacNeill, K. (2016). Torrenting Game of Thrones. *Convergence: The International Journal of Research into New Media Technologies*, 23(5), pp.545-562.

Miyazaki, A., Rodriguez, A. and Langenderfer, J. (2009). Price, Scarcity, and Consumer Willingness to Purchase Pirated Media Products. *Journal of Public Policy & Marketing*, 28(1), pp.71-84.

Moon, B., McCluskey, J., McCluskey, C. and Lee, S. (2012). Gender, General Theory of Crime and Computer Crime. *International Journal of Offender Therapy and Comparative Criminology*, 57(4), pp.460-478.

Mooney, J. and Granados, N. (2018). Popcorn or Snack? Empirical Analysis of Movie Release Windows. *Working Paper Series Center for Applied Research*, [online] (3). Available at: https://digitalcommons.pepperdine.edu/cgi/viewcontent.cgi?article=1005&context=graziadiowps

Morris, R. and Higgins, G. (2008). Neutralizing Potential and Self-Reported Digital Piracy. *Criminal Justice Review*, 34(2), pp.173-195.

Morris, R. and Higgins, G. (2010). Criminological theory in the digital age: The case of social learning theory and digital piracy. *Journal of Criminal Justice*, 38(4), pp.470-480.

Newell, G. (2011). *Interview: Gabe Newell - The Cambridge Student*. [online] The Cambridge Student. Available at: https://www.tcs.cam.ac.uk/interview-gabe-newell/

Nhan, J., Bowen, K. and Bartula, A. (2020). A comparison of a public and private university of the effects of low-cost streaming services and income on movie piracy. *Technology in Society*, 60, p.101213.

Newman, N. (1999). *The Origins and Future of Open Source Software*. NetAction.

Piquero, N. and Piquero, A. (2006). Democracy and Intellectual Property: Examining Trajectories of Software Piracy. *The ANNALS of the American Academy of Political and Social Science*, 605(1), pp.104-127.

Rocque, M., Posick, C. and Zimmerman, G. (2013). Measuring Up: Assessing the Measurement Properties of Two Self-Control Scales. *Deviant Behavior*, 34(7), pp.534-556.

Sandvine (2019). *The Global Internet Phenomena Report 2019*. The Global Internet Phenomena Report. [online] pp.6-18

Sykes, G. and Matza, D. (1957). Techniques of Neutralization: A Theory of Delinquency. *American Sociological Review*, 22(6), p.664.

Tjiptono, F., Arli, D. and Viviea (2015). Gender and digital privacy: examining determinants of attitude toward digital piracy among youths in an emerging market. *International Journal of Consumer Studies*, 40(2), pp.168-178.

Tomczyk, Ł. (2019). The Practice of Downloading copyrighted files among adolescents in Poland: Correlations between piracy and other risky and protective behaviours online and offline. *Technology in Society*, 58, p.101137.

Wall, D. (2005). The Internet as a Conduit for Criminal Activity. *Information Technology and the Criminal Justice System*, [online] 15(04), pp.77-98.

Wang S. (2014) Dreaming with BRICs? On piracy and film markets in emerging economies. In: Eckstein L, Schwarz A (eds) *Postcolonial Piracy: Media Distribution and Cultural Production in the Global South*. London: Bloomsbury Academic, pp. 99–118

Wang, S. (2016). The cloud, online piracy and global copyright governance. *International Journal of Cultural Studies*, 20(3), pp.270-286.

Wu, S. and Keysar, B. (2007). The Effect of Culture on Perspective Taking. *Psychological Science*, 18(7), pp.600-606.

Yar, M. (2005). The global 'epidemic' of movie 'piracy': crime-wave or social construction?. *Media, Culture & Society*, 27(5), pp.677-696.

Yu, S. (2013). Digital Piracy Justification. *International Criminal Justice Review*, 23(2), pp.185-196.

Appendix A

Bachelor's Thesis survey on online behavior

Dear respondent,

The following survey functions as the foundation for my undergraduate thesis at Aalto University School of Business, Mikkeli Campus. The objective of the study is to explore consumer motivations regarding online piracy.

Participation in this survey is voluntary and due to the sensitive nature of the topic, your responses to this survey will be kept anonymous and answers will be used strictly for scholarly purposes. This survey will take approximately 5 minutes.

If you have any questions in regard to this survey or the thesis process in general, please contact me through email: muzaddid.ahmed@aalto.fi.

To agree to participate in this study, click the arrow below.

Thank you for your invaluable participation and input!

Next

11% Completed

Bachelor's Thesis survey on online behavior

For the purpose of this research, pirating is defined as the **illegal streaming or downloading** of films and television shows. To ease the readability of questions, films and television shows will be referred to as **content**. Again, all answers will be kept strictly confidential and no identifying information will be asked.

Next

22% Completed

Bachelor's Thesis survey on online behavior

1. Are you currently paying for a subcription-based streaming service that allows for the consumption of content such as movies and television shows?

- (●) Yes
- ( ) No

2. Do you have a paid subscription to any of the following streaming services? (Check all that apply)

- [ ] Netflix
- [ ] HBO
- [ ] Viaplay
- [ ] Hulu
- [ ] Amazon Prime
- [ ] Disney +
- [ ] YouTube Premium
- [ ] Other:

3. When browsing the internet to stream content, do you recognize differences between streaming legally with authorized content versus streaming illegally with pirated content?

- ( ) Yes
- ( ) No

Next

33% Completed

Bachelor's Thesis survey on online behavior

PLEASE READ CAREFULLY: In the following questions the word **content** refers to **films and television shows**. For example when asked if it would be easy for you to pirate content, this means would it be easy for you to **illegally stream or download films and television shows** if you wanted to.

Next

44% Completed

4. Have you ever pirated content?
(Downloaded or streamed content without paying for it)

- (●) Yes
- ( ) No

5. How important are each of the following factors when choosing to pirate content?

	1 Not important at all	2	3	4	5 Very Important
The content not being available in my geographical location	○	○	○	○	○
Waiting time for content to arrive in legal channels (e.g Netflix or the movie theater)	○	○	○	○	○
Ease of online piracy	○	○	○	○	○
Pirated content being free	○	○	○	○	○
Your current income	○	○	○	○	○
The price to access content (e.g The monthly subscription fee of Neflix or cost of a movie ticket)	○	○	○	○	○
To test content before legitimately purchasing it	○	○	○	○	○

Next

56% Completed

6. I intend to pirate content in the near future

	1	2	3	4	5	
Definitely Will Not	○	○	○	○	○	Definitely Will

7. I will try to pirate content in the near future

	1	2	3	4	5	
Definitely Will Not	○	○	○	○	○	Definitely Will

8. I will make an effort to pirate content in the near future

	1	2	3	4	5	
Definitely Will Not	○	○	○	○	○	Definitely Will

9. Answer these following questions honestly and carefully on the five point scale

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
It would be easy for me to pirate content	○	○	○	○	○
I believe that I have the ability to pirate content	○	○	○	○	○
I have the resources necessary to pirate content	○	○	○	○	○
I can find content to pirate if I wanted to	○	○	○	○	○
The benefits of piracy outweigh the risk	○	○	○	○	○

10. It is morally wrong to...

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
Watch pirated content online	○	○	○	○	○
Download pirated content online	○	○	○	○	○
Upload pirated content	○	○	○	○	○
Buy pirated content	○	○	○	○	○
Share pirated content with friends and family	○	○	○	○	○

Next

67% Completed

11. Answer these following questions honestly and carefully on the five point scale.

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
Content is too spread out across different streaming services	○	○	○	○	○
It is too expensive to legally consume all the content I desire	○	○	○	○	○
Content I am interested in watching is usually not available in my geographical location	○	○	○	○	○
I would rather watch content instantly than wait for it	○	○	○	○	○
I want to support content makers	○	○	○	○	○
If I pirate content, it wont affect content providers (e.g Warner Bros, HBO & Disney)	○	○	○	○	○
Online piracy is OK in some situations	○	○	○	○	○
If the content is not available in my country, I am more likely to pirate it	○	○	○	○	○
I would not feel guilty if I pirated content	○	○	○	○	○
I prefer to pirate instead of legally consuming content	○	○	○	○	○

Next

78% Completed

12. Answer these following questions honestly and carefully on the four point scale.

	Fully Disagree	Somewhat Disagree	Somewhat Agree	Fully Agree
I act on the spur of the moment without stopping to think	○	○	○	○
I do whatever brings me pleasure here and now, even at the cost of some distant goal	○	○	○	○
I'm more concerned with what happens to me in the short run than in the long run	○	○	○	○
I like to test myself every now and then by doing something risky	○	○	○	○
Sometimes I will take a risk just for the fun of it	○	○	○	○
Excitement and adventure are more important to me than security	○	○	○	○
I try to look out for myself first, even if it means making things difficult for other people	○	○	○	○
If things I do upset people, it's their problem not mine	○	○	○	○
I will try to get the things I want even when I know it's causing problems for other people	○	○	○	○
I lose my temper pretty easily	○	○	○	○
When I'm really angry, other people better stay away from me	○	○	○	○
When I have a serious disagreement with someone, it's usually hard for me to talk calmly about it without getting upset	○	○	○	○

Next

89% Completed

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Bachelor's Thesis survey on online behavior

13. Where did you acquire the link to this survey?

- ◯ Social media or email
- ◯ Reddit Forum

14.
Where are you from?

Finland

15. What is your gender?

Select

16. Are you currently a student?

- ◯ Yes
- ◯ No

17. What is your employment status?

- ◯ Not employed currently
- ◯ Employed Part time (less than 35 hrs/week)
- ◯ Employed Full time (35+ hrs/week)

18. Age (in years)

Submit

100% Completed